

Construction

IN THE SOUTH

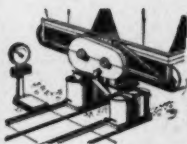
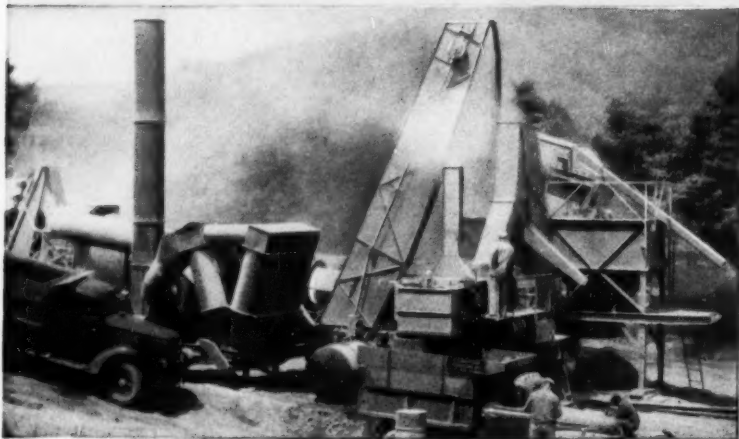


Sideboom tractor tows cleaning and priming machine up a steep hill during construction of Texas Eastern Transmission Corporation's 791-mile pipeline between Kosciusko, Miss., and Connellsville, Pa. In the background the coating and wrapping machine starts downward into the valley.

FEBRUARY 1952

Barber-Greene

BITUMINOUS MIXING PLANTS



Mix sampling and calibration facilities provided on 8-G. High Capacity Plants for mixing highest type 3-and-4 aggregate mixes. Convenient, accurate calibration by weight.

ACCURATE MIX CALIBRATION...BY WEIGHT ON A CONTINUOUS FLOW BASIS CONVENIENT FOR OPERATOR AND INSPECTOR!

Barber-Greene Bituminous Mixing Plants provide many control features not offered in any other type of plant. Here are a few of the provisions that help accomplish these advantages:

AGGREGATE GATES, when set to feed the correct amount of aggregate from each bin, may be locked in position.

OVERFLOW SPOUTS are provided on each aggregate bin for balancing aggregate by rejecting any excess of any size in the bins.

AUTOMATIC CUT-OUT stops plant operation in case of deficiency of any aggregate size.

FINES FEEDER for introducing mineral filler in correct proportion to total mix.

GRADATION UNIT SCREEN and bin design permit separation of aggregate into 2, 3 or 4 fractions to meet any specifications.

DUST COLLECTOR for use with any plant when it is necessary to conserve desirable fines in aggregate.

BY-PASS GATE for convenient calibration, inspection and sampling. Aggregate in each bin may be individually sampled without interference to plant operation and production.

BY-PASS GATE ahead of pug mill. Composite aggregate sample may be obtained for convenient testing without interfering with operation and production.

ACCURATE, POSITIVE-DISPLACEMENT bitumen metering pump with interlocked drive to aggregate feeders to guarantee unvarying proportion of bitumen to aggregate

BARBER-GREENE COMPANY

AURORA, ILLINOIS

MORE ROCK SHOVELS for Bryan Rock & Sand Co.

A lot of people have said to us. "Don't you get tired of running these ads with numbers in them, telling about repeat orders, year after year?"

Remember, there are a lot of manufacturers who can't do this *month after month, and year after year!* Remember, too, that there is no better endorsement of the performance of a piece of equipment than a repeat order.

When an outfit with tough rock problems like Bryan Rock & Sand Co. buys its sixteenth machine of one make it means something.

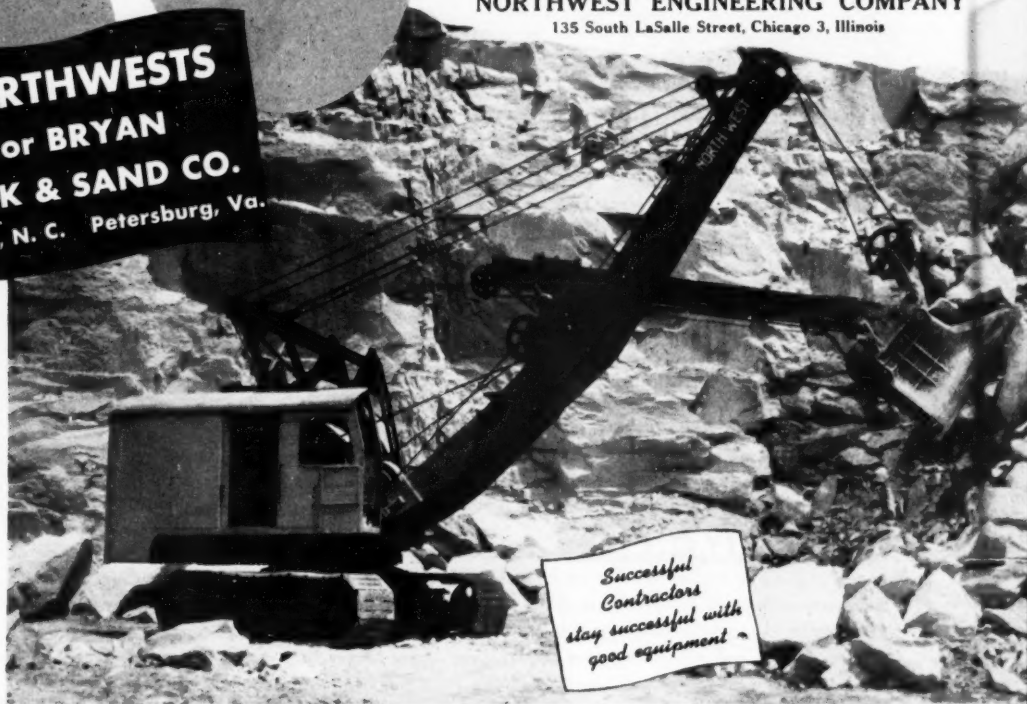
No, we never get tired of them! A repeat orders tells you that what we claim is so. It proves that Northwest equipment is profitable equipment to own, that Northwests are easy to care for and the fact that this has gone on for years and years proves that Northwest *maintains quality and keeps abreast of the conditions.*

Check up on Northwest. You can plan to have Northwests on your job. Follow the Northwest Crowd! Ask a Northwest Man for details.

NORTHWEST ENGINEERING COMPANY

135 South LaSalle Street, Chicago 3, Illinois

NORTHWESTS
for **BRYAN**
ROCK & SAND CO.
Raleigh, N. C. Petersburg, Va.



*Successful
Contractors
stay successful with
good equipment*

local NORTHWEST sales agents

FLA.—JACKSONVILLE, LAKELAND,
MIAMI, ORLANDO, TAMPA,
TALLAHASSEE
Fla.-Go. Tractor Co.

GA.—ATLANTA
Tractor & Machinery Co., Inc.

SAVANNAH
Fla.-Go. Tractor Co.

LA.—NEW ORLEANS
Woodward-Wright & Co., Ltd.

SHREVEPORT
Construction Machinery Corp.

MD.—BALTIMORE
McClellan-Logan Equipment Co., Inc.

N. C.—ASHEVILLE, CHARLOTTE,
GUILFORD, RALEIGH, WILMINGTON
No. Carolina Equipment Co.

S. C.—W. COLUMBIA
Southern Equipment Sales Co.

TENN.—CHATTANOOGA
Nixon Machinery & Supply Co., Inc.

MEMPHIS
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NASHVILLE
McCarthy, Jones & Woodard

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Hampton Roads Tractor & Equipment
Co.

RICHMOND & SALEM
Highway and Machinery Supply Co.

W. VA.—CHARLESTON
W. Va. Tractor & Equipment Co.

*Successful
Contractors
Stay Successful
with
Proved Equipment*

"QUICK-WAY"

Reg. U.S. Pat. Off.

**Handles Profitable
Septic Tank, Cesspool
Job for 52 New Homes**

We've Been Working for Many Years with "QUICK-WAY"

"We've been working for many years with "QUICK-WAY" Truck Shovels and know their worth in Back Hoe, Clamshell and General Crane Work. A typical operation is the job we're doing now for contractors who are building 52 Three Bedroom Houses for *La Canada Homes* on the outskirts of Pasadena.

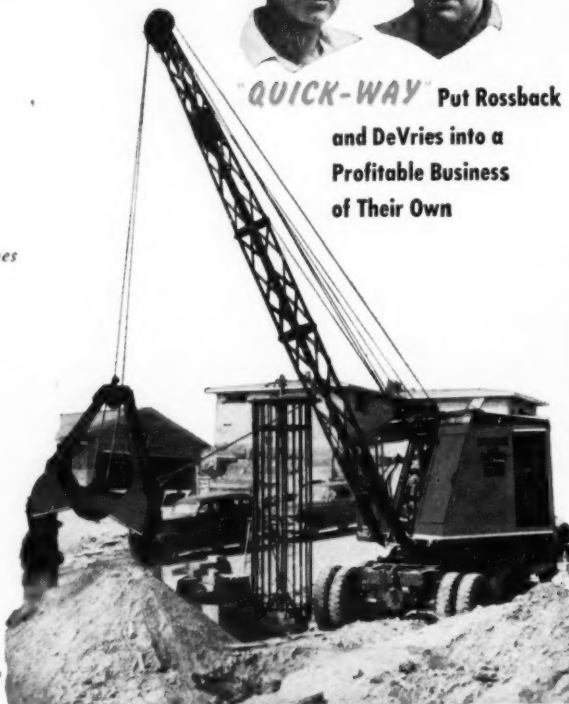
"We are digging holes for 1100-gallon septic tanks (13' long, 4' wide, and 7' deep), digging two cesspools for each tank 26' deep and 6' in diameter. We're digging the ditch to join the septic tank with the two cesspools. This is all being done on hilly ground, some of it hard pan. Our "QUICK-WAY" really does fast work on jobs like this which mean profit to us. On one job our "QUICK-WAY" handled 698' of ditch in one day, averaging 2½' to 6' deep. We've dug in seven 750-gallon prefabricated septic tanks (9'6" x 3'6" x 7') in a single day. These are typical money-making jobs for us."

ROSSBACK AND DeVRIES

Rigging and Digging • Pacoima, California



**"QUICK-WAY" Put Rossback
and DeVries into a
Profitable Business
of Their Own**



Yes... "QUICK-WAYS"

make faster profits—give you fast truck speed between jobs—eight money making attachments—fast working speeds—4 models from 3 to 10 ton crane capacity. And quality construction too—all steel for strength and lightness—accurate balance—high capacity to weight ratio. More parts are interchangeable and easy to get at, which simplifies maintenance and repairs. All parts deliver their capacity rating and more. This fine construction means longer life—more profits on a small investment. They're economical to buy. Ask your distributor for a free demonstration.

"QUICK-WAY" TRUCK SHOVEL COMPANY • DENVER, COLORADO, U.S.A.

"QUICK-WAY" TRUCK SHOVEL DISTRIBUTORS:

FLORIDA-GEORGIA TRACTOR CO.
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SOUTHERN EQUIPMENT SALES CO.
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POWER EQUIPMENT COMPANY
Knoxville, Chattanooga and Kingsport,
Tenn.

HAMPTON RDS. TRACTOR & EQUIP.
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RAY BROOKS MACHINERY CO.
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RAY BROOKS TRUCK & TRACTOR CO.
Pensacola, Florida

FREE STATE EQUIPMENT CO., INC.
Baltimore, Md.

TRACTOR & EQUIPMENT CO., INC.
Birmingham, Alabama

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The CONSTRUCTION magazine is published in four editions: C edition is for North Carolina and South Carolina; S edition, Alabama, Florida, Georgia and Tennessee; N edition, Kentucky, Maryland, Virginia, and West Virginia; W edition, Arkansas, Louisiana, Mississippi, Missouri, Oklahoma, and Texas.



FEBRUARY 1952

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WM. E. McCORD
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Publishers Of

DAILY CONSTRUCTION BULLETIN

MANUFACTURERS RECORD

BLUE BOOK OF SOUTHERN PROGRESS

BRANCH ADVERTISING OFFICE

R. S. Kendrick, 1430 Clairmont Road, Decatur, Ga. Telephone: Crescent 4677

FEBRUARY, 1952

Southern River, Harbor, Flood Control Projects Listed

The total of \$659,999,000 is proposed for expenditure for river and harbor work and flood control under the approved budget estimate of the Corps of Engineers. Of the entirety, \$286,675,000 would go for the river and harbor classification and \$372,315,000 for flood control, as well as \$1,000,000 for Niagara power development.

Southern projects included the following:

Rivers and Harbors

Alabama—Demopolis lock and dam, part of Black Warrior system, \$5,500,000; Howell Mill Shoals dam, part of Alabama-Coosa rivers system, \$100,000 for planning; Upper Columbia lock and dam, part of Apalachicola, Chattahoochee and Flint rivers system, Alabama and Georgia, \$75,000 for planning; new lock and dam No. 8, Black Warrior, Warrior and Tombigbee River system, \$75,000 for planning; total \$5,750,000;

Arkansas—Arkansas River and tributaries, Arkansas and Oklahoma, \$2,050,000;

Florida—Jacksonville to Miami waterway, \$2,200,000; Jim Woodruff dam, part of Apalachicola, Chattahoochee and Flint river system, \$11,330,300; total \$13,530,300;

Georgia—Buford dam, part of Apalachicola, Chattahoochee and Flint rivers system, Florida \$3,000,000;

Kentucky—Celina dam, part of Cumberland River basin, \$50,000 for planning; Fernbank lock and dam, Kentucky and Ohio, \$100,000 for planning; Greenup lock and dam, Kentucky and Ohio, \$75,000 for planning; total \$225,000;

Maryland—Baltimore harbor and channels, \$800,000;

Missouri—Mississippi River between Ohio and Missouri rivers (\$1,297,000 in Illinois); Missouri River, Kansas City to mouth, \$3,500,000; Missouri River, Kansas City to Sioux City (\$5,000,000 in Iowa);

Oklahoma—Arkansas River and tributaries, Arkansas and Oklahoma (in Arkansas);

Tennessee—Cumberland River basin; Carthage dam, \$90,000 for planning; Cheatham lock and dam, \$6,000,000; Old Hickory lock and dam, \$16,000,000; total \$22,090,000;

Texas—Gulf Intracoastal waterway (Galveston district), \$1,386,000; McGee Bend dam, \$25,000 for planning; total \$1,611,000;

West Virginia—Monongahela River; Hildebrand lock and dam, \$35,000 for planning;

Flood Control

Arkansas—Blakely Mountain reservoir, \$6,600,000; Bull Shoal reservoir, Arkansas and Missouri, \$1,400,000; Red River levees and bank stabilization, Arkansas, Texas and Louisiana, \$634,000; total \$8,634,000; \$50,000 for planning on Greers Ferry reservoir and \$100,000 for planning on Table Rock reservoir;

District of Columbia—\$50,000 for plan-

(Continued on page 56)

The finest masonry work starts with

Cumberland Masonry Cement

THE "little red school house" of bygone days is now an imposing edifice of concrete, brick, stone and steel. And an attractive exterior has become a definite "must" in all school construction plans. That is why Walter Lerch, masonry contractor, chose Cumberland Masonry Cement for the Elbert S. Long School, Chattanooga. Cumberland's pleasing—and lasting—light color gives added beauty as well as sound construction to masonry units.

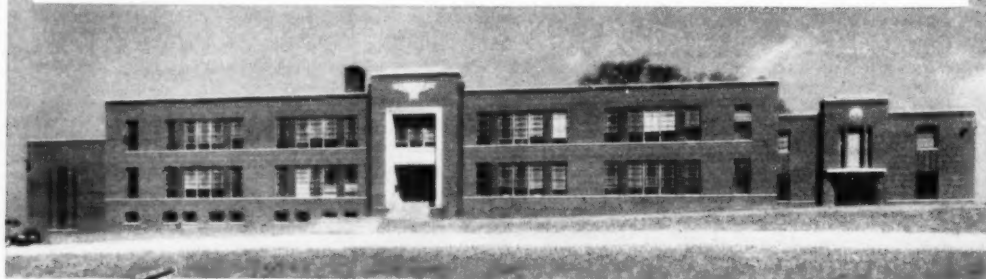
YES, beauty is a prime consideration for all types of masonry construction, and Cumberland always gives you a beautiful job. But there are other important advantages to Cumberland. For instance, plasticity. Cumberland Masonry Cement is more workable—it stretches, butters, spreads and shoves a head joint with a minimum of effort and a maximum of efficiency.

MAKE your next job a Cumberland job. From the first masonry unit to the last, Cumberland Masonry Cement handles easier and *looks better*.

THE 10 BASIC REQUIREMENTS OF HIGH-QUALITY MASONRY CEMENT*

1. Plasticity
2. Body
3. Strength
4. Yield
5. Color
6. Adhesion & Bond
7. Negligible Shrinkage
8. Water Retention
9. Water Repellency
10. Non-efflorescing

* Cumberland gives you all 10!



Elbert S. Long School, Chattanooga—Verhey Const. Co., Contractor; Walter Lerch, Masonry Contractor; Sears & Shepherd, Architects; Sewanee Coal & Supply Co., Masonry Cement Supplier.



Cumberland

PORTLAND CEMENT COMPANY

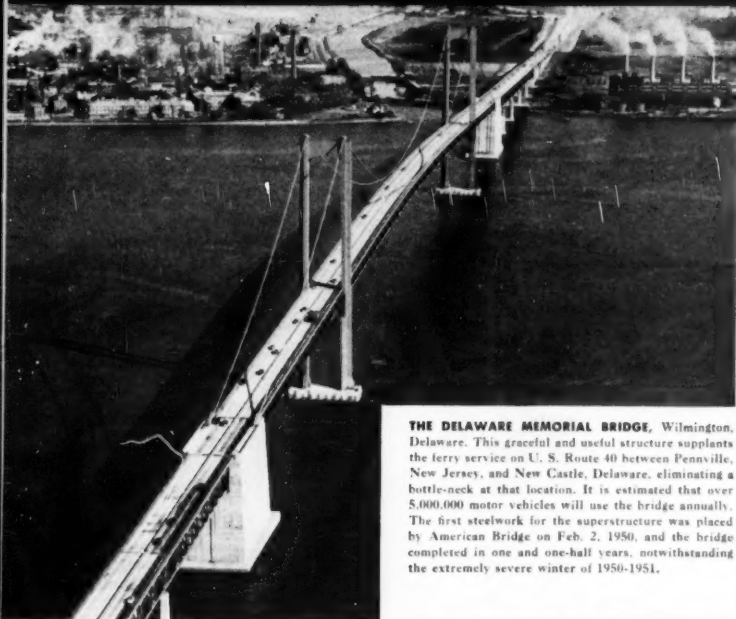
Chattanooga Bank Building • • Chattanooga 2, Tennessee

Portland — High Early Strength — Air Entraining — Masonry

Any quantity of Cumberland Masonry Cement will be shipped in mixed carloads with other types of Cumberland Cement.

WORLD'S SIXTH LONGEST SPAN

Another outstanding example of
American Bridge ingenuity and dependability



THE DELAWARE MEMORIAL BRIDGE, Wilmington, Delaware. This graceful and useful structure supplants the ferry service on U. S. Route 40 between Pennville, New Jersey, and New Castle, Delaware, eliminating a bottle-neck at that location. It is estimated that over 5,000,000 motor vehicles will use the bridge annually. The first steelwork for the superstructure was placed by American Bridge on Feb. 2, 1950, and the bridge completed in one and one-half years, notwithstanding the extremely severe winter of 1950-1951.

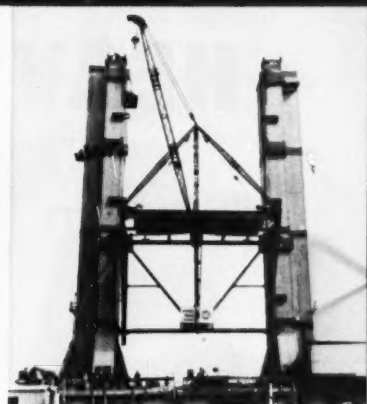
HAVING FOUR traffic lanes, each 12 feet wide, a 3-foot median strip, and two 3-foot sidewalks, The Delaware Memorial Bridge provides a safer, speedier connecting link between the states of Delaware and New Jersey. The 2,150-foot main suspension span gives a vertical clearance of 175 feet above the 1,500-foot channel, sufficient for even the largest ships.

American Bridge fabricated and erected the steel superstructure, fabricated the steelwork for the anchorage foundations, and for the tower caissons, and spun the heavy suspension cables.

The complete story of American Bridge's part in the building of this great bridge has been published in an interesting new booklet. Contains many photographs showing various stages of construction. Write for your copy.



CATWALK VIEW from one of the main towers as wire is being spun into suspension cables. Pencil-thick wires, four at a time, are shown being carried across the Delaware River by a four-foot spinning wheel. Bridgemen are placing the wires in strands as they come from the wheel. The spinning operation continued day and night, interrupted only by high wind and severe cold.



ERECTION OF ONE of the two identical towers has progressed to the fourth section. Preparations are being made to "jump" the creeper to the next level. Completed towers rise 417 feet above the foundations—a height approximately that of a thirty-five story building.

INTERESTING FACTS THE DELAWARE MEMORIAL BRIDGE

Length of Main Suspended Span	2,150'
Length of Each Suspended Side Span	790'
Total Length of Suspended Spans	3,880'
Length of Delaware Approach	3,770'
Length of New Jersey Approach	3,087'
Total Length of Bridge between Abutments	10,767'
Total Estimated Weight of Superstructure	73,141,500 #
Height of Towers Above Piers	417'
Size of Main Cables	19 1/4" Dia.
Size of Wire Suspenders	2" Dia.
Size of Hand Ropes	1" Dia.
Weight of Main Cables	6,978,000 #
Total Length of Suspender Cable	56,000'
Length of Hand Rope	15,200'
Total Estimated Cost of Bridge	\$43,900,000

Owner: Delaware State Highway Department
Engineers: For the Delaware State Highway Department—Howard, Needles, Tammen & Bergendoff
Consultants: O. H. Ammann
Moran, Proctor, Freeman & Mueser
Consulting Architect: A. Gordon Lorimer
Superstructure: Fabricated and Erected by American Bridge.

AMERICAN BRIDGE DIVISION, UNITED STATES STEEL COMPANY
GENERAL OFFICES: 525 WILLIAM PENN PLACE, PITTSBURGH, PA.

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AMERICAN BRIDGE

UNITED STATES STEEL

Now! a Great New **HEAVY-DUTY GRADER**

Allis-Chalmers

AD-40

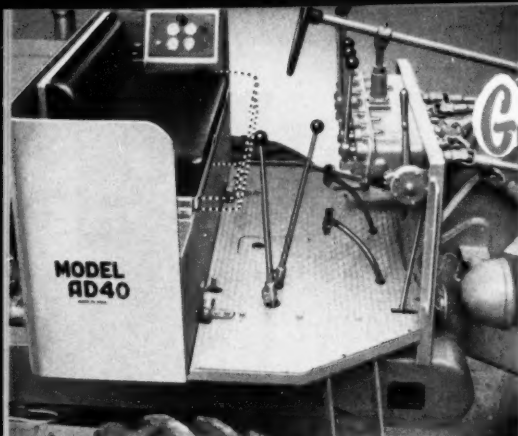
Weight—23,000 lb.

(24,800 lb. with optional
calcium chloride in tires)

104 Brake hp.

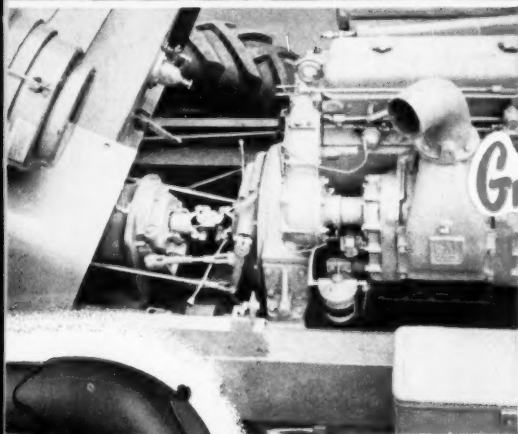


Built to handle All Jobs
—FASTER, EASIER



Great New operating ease

No other grader has been designed with the operator more in mind. **Unmatched Visibility**—Single tubular frame from front to platform, new lift cases, low control box and tapered platform give operator a full view of what he is doing. **Feather-Touch Steering**—New hydraulic booster system, fully enclosed in the frame, provides effortless steering with positive control even under toughest conditions. **All-Around Comfort**—Roomy platform, adjustable seat (as shown) and simple controls offer any size operator true comfort—sitting or standing.



Great New service simplicity

Here's maintenance and repair accessibility second to none. Combined fuel tank and seat unit tilts forward for easy access to clutch, transmission and drive shaft. Transmission can be removed without disturbing floor plates. Power take-off and hydraulic pump are mounted outside the dash.



Great New performance

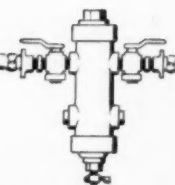
Add these outstanding operator and service advantages to the exclusive Allis-Chalmers features that include ROLL-AWAY* Moldboard—extra high clearances from front to rear—shock-absorbing tubular frame—dependable General Motors 2-Cycle diesel power . . . and you have the finest heavy-duty grader on the market. Get the full story on this new AD-40 from your Allis-Chalmers dealer now.

*ROLL-AWAY is an Allis-Chalmers Trade-mark.

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All Air Lines Lead to Savings

WHEN YOU USE

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PORTABLES AND AIR TOOLS

To Speed Your Work



Fast Drilling—
with Gardner-Denver
Sinkers. Out-
standing drillers in
every weight class.
Exceptional hole
cleaning ability.



Solid Tamping—with Gard-
ner-Denver Backfill Tampers.
Smooth walking. Non-freez-
ing exhaust. Easy to maintain.



Dependable Pumping
—with the VP4 Pneu-
matic Sump Pump. Top-
suction prevents clogging
—protects motor and
bearings from mud.



Full Air Capacity—at any altitude—with the
Gardner-Denver Two-Stage WH-105 Gasoline
Powered Portable. Fully water-cooled cylinders for
dependable operation, regardless of weather or
temperature extremes.

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Water-Cooled Portables and Gardner-Denver
Air Tools.

SINCE 1859

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**Economical
Breaking**—with
Gardner-Denver
Paving Breakers. A
size for every type
of work. Safety
latch. Built-in lu-
bricator.



Powerful Driving—
with Gardner-Denver
Sheeting Drivers. Ad-
justable jaws. Safety
latch. Removable foot
rests.



Easy Digging—
with Gardner-Den-
ver Clay Diggers.
Made of special
steel for extra
strength. Quickly
converted to Trench
Digger.

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS



Above—Assembly operations on the whirley Merritt-Chapman & Scott Corp. will use to handle and load precast piling and girders used in constructing the \$6,061,433 bridge across Bay St. Louis for the Mississippi State Highway Commission. It is to operate on a 30-foot track. At right is 50-foot track for the gantry which will handle the 118-ton sections of precast deck slab.

Merritt-Chapman & Scott Builds Big Gantry to Handle Precast Slabs for Mississippi Span

ASSEMBLY of a specially designed gantry capable of moving 118-ton precast sections of reinforced roadway slab from casting yard to barge is but one of the site preparation jobs handled by Merritt-Chapman & Scott Corp. in its work to date on the new 10,198-foot, four-

lane bridge the company is building across Bay St. Louis for the Mississippi State Highway Commission.

Ground breaking ceremonies for the project were held last August following award of a \$6,061,433 low bid contract to Merritt-Chapman & Scott. Designed by

the engineering firm of Hazelet and Erdal, of Louisville, Ky., the trestle-type bridge will span Bay St. Louis near its mouth on the Gulf of Mexico to carry U. S. Highway 90 between the City of Bay St. Louis on the west and Henderson Point on the east.

The bridge will feature a double leaf, electrically operated rolling lift bascule span providing a 100-foot horizontal clearance at the channel point. Together with flanking steel approach spans, the bascule span will be 317 feet long. The trestle approach on the west will be 5,617 feet long, and 4,264 feet long on the east. All told, there will be 241 reinforced concrete girder spans, each 41 feet long.

Deck of the new bridge will be of reinforced concrete, supported by reinforced concrete pile bents. There will be two 26-foot roadways, separated by a three-foot raised median strip along the center line, with three-foot sidewalks on either side. Over-all width of the bridge, including allowance for railings, will be 63 feet, one inch.

The fireproof design of the new bridge is aimed at ending the traffic interruptions which have resulted a number of times in the past when fire swept the creosoted pile supported wooden trestle

(Continued on page 18)

Below—Section of the casting yard, showing some of the 24 by 24-foot forms, which by use of sectional dividers, can be used to pour piles to any lengths required for the project.





Above—Aerial view of Missouri Pacific Lines' new consolidated freight station at St. Louis. One block long and three blocks wide, the new facility covers five acres. It is built of steel and concrete with corrugated asbestos roofing and siding applied to a rigid steel frame which has been bolted and welded together.

Missouri Pacific Completes Consolidated Terminal

The Missouri Pacific Lines' new consolidated freight terminal at St. Louis, Mo., a facility occupying an area of five acres, was placed in service early in January.

Under construction for more than a year, the new building is a city block wide and three blocks long and was erected at a cost exceeding one and a half million dollars.

The Miller Street Consolidated station is the first major freight station to be opened in the St. Louis area in the past 40 years and was placed in service as the Missouri Pacific started its second century of service in St. Louis.

The new station replaces the original Pacific Railroad freight station which was established at what now is Seventh and Poplar streets almost a century ago, and the freight station at Main and Gratiot

Streets which was built by the old St. Louis, Iron Mountain & Southern in the 'Seventies.

The new consolidated station fronts 314 feet on Miller street and extends south along the east side of Kosciusko street a distance of 770 feet to Carroll street. Along the west side of the new terminal is a private 50-foot concrete driveway for the pick-up of freight for delivery in St. Louis; while on the east side, which is adjacent to Missouri Pacific's Lesperance Street yard, there is a paved area 75 feet wide to accommodate trucks delivering freight to the station.

There are 131 loading doors on the east and west sides of the building—for the receipt and delivery of freight and each door is operated independently so that the sides of the building remain closed. At the south end of the building are three

sliding airplane hangar type doors and at the north end another similar door which can be closed to completely enclose the building when necessary.

Inside the station there are two platforms, one on the east side and one on the west, which are slightly more than 51 feet wide each and between them are two island platforms, each 30 feet wide. Between each platform are four tracks with an overall capacity for the 12 tracks of 180 freight cars, and each platform is 750 feet in length.

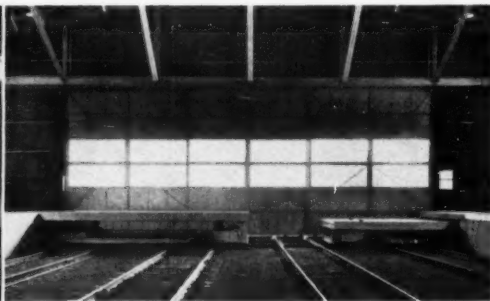
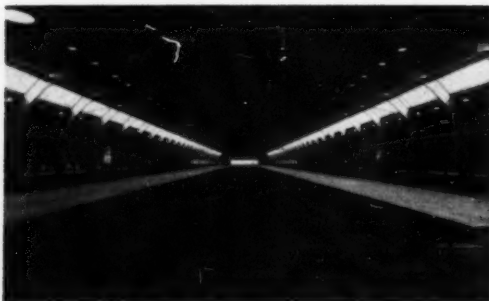
Eight of the 12 tracks are stub tracks which terminate at the north end of the platforms and four tracks, along the east platform, are through tracks leading directly to the new elevated structure soon to be built in connection with elimination of a number of grade crossings on Poplar street.

Connecting each platform, so that communication may be had from one to the other at all times except when actual switching operations are taking place, are "rollaway" bridges which, like the doors at the ends of the building, are operated by electric motors.

Designed by Missouri Pacific engineers especially for the new building, these bridges are of a new type, instead of the usual type of lift bridges which are raised

(Continued on page 18)

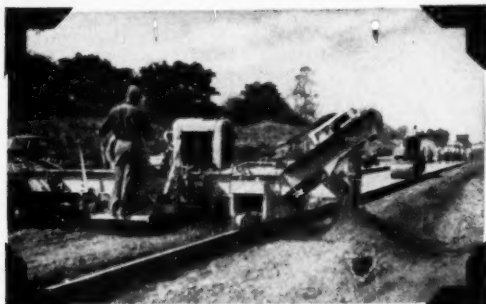
Below—Left—Interior view from center group of tracks in Missouri Pacific Lines' new St. Louis consolidated freight station. There are 131 loading doors on the east and west sides of the building. At the south end are three sliding airplane hangar type doors and the north end, a similar door to completely close the building when necessary. Right—Crossover bridges are provided to span the track groups at the ends of adjoining platforms. The two-section bridge shown is in process of being lowered and retracted to permit passage of freight cars into or out of the building along tracks in the foreground. Section at left is still up and fully extended; section at right has been lowered sufficiently to permit it to be drawn under the platform. Hoisting and racking movements are electrically actuated by remote control from position adjacent to bridge. The bridges were built by Nichols Engineering Co., Chicago, from specifications furnished by the railroad's engineers.



STANDARD ENGINEER'S REPORT

DATA
RPM Delo Oils
LUBRICANT
UNIT
Road Building Equipment
Patterson Construction Co.
Monongahela, Pa.
D. W. Winkelman Co., Inc.
FIRMS
Syracuse, N. Y.

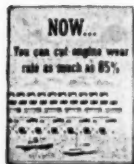
RPM DELO Oils help build new Pennsylvania Turnpike!



THE PATTERSON CONSTRUCTION CO. has tried various lubricating oils, but RPM DELO Oils proved so superior that they are now used exclusively in Patterson's entire fleet of 125 heavy-duty construction pieces. Pictured above is a Blaw Knox Sub Grader working on new Pennsylvania Turnpike near Dorseyville, Pa. Heavy dust was met frequently during construction, but RPM DELO Oils never failed to give unmatched performance.

CONSTRUCTION WORK ON THE NEW TURNPIKE near Beaver Falls, Pa., was handled by the D. W. Winkelman Co., Inc., Syracuse, N. Y. and in their equipment, too, RPM DELO Lubricating Oils were used to help do the job more efficiently. Picture above gives good indication of strenuous conditions met during construction. The Winkelman Co. has used RPM DELO Oils in heavy-duty engines for 9 years. Results are described as "excellent"!

RPM DELO OILS have made many outstanding service records in all types of heavy-duty gasoline and Diesel engines. They keep engines clean, reduce wear and cut operating costs. There is an RPM DELO Oil to meet every heavy-duty lubricating need: RPM DELO Heavy Duty, RPM DELO Special, RPM Supercharged-1 Oil, RPM DELO Supercharged-2 Oil.



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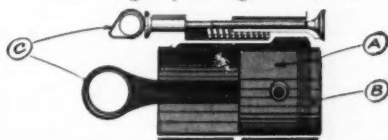
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FEBRUARY, 1952

How RPM DELO Oils meet tough operating conditions



- A. Contain special additives that provide metal-adhesion qualities...keep oil on parts whether they are hot or cold, running or idle.
- B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean, helps prevent scuffing.
- C. Special compounds stop corrosion of any bearing metal, and oil foaming in both wet and dry sump engines.

South's Biggest January Bid Opening Totals \$6,201,012 in Texas

The Texas State Highway Department, in the South's largest bid opening, last month received low proposals from contractors totaling \$6,201,012 for projects in the following counties:

McLennan—Federal Project No. U-605 (14), Control No. 55-15-3, Highway U.S. 84, 913 of a mile of grading, structures and concrete pavement from Dallas Street to Clifton Street in Waco, Worth Construction Co., Fort Worth, Tex., \$222,772, Texas Bitulithic, Dallas, Tex., \$233,063;

Harris—Federal Project No. F1 1052 (18), Control No. 508-1-4, Highway SH 73, 6,107 miles concrete pavement from U. S. 90 to Haden Road, Harrison Engineering & Construction Co., Kansas City, Mo., \$967,600, Austin Road Co., Dallas, Texas, \$994,095;

Williamson—Federal Project No. F 10 (11), Control No. 204-3-12, Highway U.S. 70, 3,219 miles grading, structures, flexible base and two-course surface treatment from 3.05 miles west of Taylor to 23 mile west of Sloan St. in Taylor, J. W. Perry, San Antonio, Texas, and R. B. Butler, Inc., Bryan, Texas, \$186,463, Caze Brothers, Dean Skinner, \$189,449;

Nolan—Federal Project No. F1 444(21) & F 444(22), Control No. 6-2-17 & 18, Highway U.S. 80, 7,929 miles grading, structures, flexible base and two-course surface treatment from Mitchell County Line to Roscoe, Harry Campbell, Fort Worth, Texas, \$455,192, Strain & Brown, Inc., San Angelo, Texas, \$463,497;

Kerr—Federal Project No. F1 243(5), Control No. 142-4-12, Highway SH 27, 4,789 miles grading, flexible base and two-course surface treatment from Kerrville to Ingram, Ernest Loyd, Fort Worth, Texas, \$142,473, J. W. Perry, San Antonio, Texas, \$152,778;

Gregg & Harrison—Federal Project No. F 21 (4) & F1142(14), Control No. 96-6 & 7-9 & 9, Highway U.S. 80, 8,237 miles hot mix asphalt concrete pavement, from 1 mile west of east city limits of Longview to Hallsville, Public Construction Co., Denton, Texas, \$114,047, Texas Bitulithic Co., Dallas, \$117,459;

Oldham—Federal Project No. S 1510 (4), Control No. 226-3-6, Highway S.H. 51, 17,273 miles flexible base and two course surface treatment from Vega northwest 17,273 miles, Cooper & Woodruff, Amarillo, Texas, \$180,584, F. N. Lambert, Albuquerque, New Mexico, \$188,389;

Martin—Federal Project No. S 1579 (1), Control No. 1638-2-1, Highway F.M. 1718, 10,096 miles grading, structures, base and surface from F. M. 87, 4 miles West of S.H. 137 10,096 miles North, J. R. Fanning, Lubbock, Texas, \$75,835, John F. Buckner & Sons, \$75,861;

Callahan—Federal Project No. S 1303 (1) & S 1304(1), Control No. 974-1-3 & 480-3-7, Highway F.M. 604 & 880, 6,698 miles grading structures, base and surface from 9 miles South of Clyde to S. H. 36 & from 9.5 miles South of Putnam to Cottonwood, Harry Campbell, Fort Worth, Texas, \$62,700, Stone Construction Co., \$63,572;

Medina—Federal Project No. S 1243

(2), Control No. 849-2-3, Highway F. M. 1105, 8,206 miles grading structures, base and surface from end of existing F.M. 1105 to Bexar County line, E. E. Hood & Sons, San Antonio, Texas, \$42,685, J. W. Perry, San Antonio, Texas, \$43,512;

Matagorda—Federal Project No. S 682 (2), Control No. 497-1-3, Highway F. M. 1727, 5,579 miles grading, structures, base and surface from Jackson County line, East to Blessing, South Texas Construction Co., Corpus Christi, Texas, \$94,360, Wendel Construction Co., \$100,781;

Smith—Federal Project No. S 508(2), 203-8-2, Highway F. M. 1253, 4,960 miles grading, structures, base and surface from end of F. M. 1253 in Jamestown to Intersection with S. H. 110 in Garden Valley, Campbell & Kay, Tyler, Texas, \$57,988, E. W. Hable & Sons, Corsicana, Texas, \$61,471;

Crosby—Federal Project No. S477(3), Control No. 806-3-3 & R 949-2-1, Highway F. M. 651, 12,125 miles grading, structures, base and surface from 9.4 miles South of Crosbyton, South and East to Kalgary, Kerr & Middleton, Lubbock, Texas, \$118,399, Cooper & Woodruff, Amarillo, \$119,484;

Chambers—Federal Project No. S 1748 (1), Control No. 1580-1-1, Highway F. M. 1724, 4,890 miles grading, structures, base and surface from S. H. 737, 1 mile East of Monroe City to intersection with Hankamer-Winnie Road, Ernest L. Mays, Beaumont, Texas, \$97,318, John F. Buckner & Sons, \$103,381;

Coleman—Federal Project No. S1432 (1), Control No. 1104-1-2 & R 1104-1-3, Highway F. M. 1026, 6,394 miles grading, structures, base and surface from South end of asphalt surface on F. M. 1026, South to 3.4 miles and from 3.4 miles south of Fisk south 3.0 miles to Mozelle School, Harry Campbell, Fort Worth, Texas, \$33,255, M. E. Ruby & W. L. Barnes, \$34,977;

Mitchell—Federal Project No. S 1607 (1), Control No. 1362-2-2, 8,684 miles grading, structures, base and surface from end of F. M. 1229, 7 miles North of U. S. 80 to S. H. 350, John F. Buckner & Son, Cleburne, Texas, \$78,891, Caze Brothers, San Antonio, Texas, \$79,409;

Jeff Davis & Presidio, Control No. R 871-1-2 & R 956-1-4, Highway F. M. 505 & 169, 21,120 miles seal coat from U. S. 90 near Valentine to S. H. 166, from U. S. 67 near Marfa to 12,249 miles South, Hugh McMillan, El Paso, Texas, \$17,728, C. Hunter Stain, San Angelo, Texas, \$18,472;

Leon—Control No. RV 552-1-2, Highway F. M. 3, 8,577 miles grading and small drainage structures from F. M. 977 near Venetia to end of present F. M. 3, Adams Brothers, Kaufman, Texas, \$41,294, H. Petrey & Sons, Fort Worth, Texas, \$43,385;

Wilbarger, Baylor & Throckmorton—U. S. 283, 183, S. H. 79 & 24, 60,467 miles seal coat, C. Hunter Strain, San Angelo, Texas, \$69,812, Ned B. Hoffman, Fort Worth, Texas, \$70,894;

Van Zandt & Smith—Control No. C 95-7-22 & C 95-8-9, Highway U. S. 80, 7,988

miles hot mix asphalt concrete pavement from west city limit of Grand Saline to 568 mile east of Van Zandt Co. L., Public Construction Co., Denton, Texas, \$79,158, Uvalde Construction Co., Dallas, Texas, \$85,147;

Trinity—Federal Project No. S 1825 (1), Control No. 475-8-1, Highway F. M., 3,834 miles grading, structures, base and surface from Trinity to Walker County line, M. E. Ruby, San Marcos, Texas, \$65,686, John F. Buckner & Son, Cleburne, Texas, \$65,895;

Knox—Federal Project No. F 910 (4), Control No. 133-2-7, Highway U. S. 82, 11,568 miles grading, structures, flexible base and two course surface treatment from Benjamin to King County Line, Bryan & Hoffman, Plainview, Texas, \$155,327, Strain & Brown, Inc., San Angelo, Texas, \$163,743;

Clay—Federal Project No. F 449 (4), Control No. 224-2-7, Highway U. S. 287, 7,746 miles hot mix asphalt concrete pavement from 9.9 miles southeast of Henrietta to Montague Co. L. (Sec.), H. B. Zachry Co., San Antonio, Texas, \$72,941, C. Hunter Strain, San Angelo, Texas, \$74,375;

Anderson—Federal Project No. F 712 (1), Control No. 122-4 & 5-11 & 3, Highway U.S. 287, 3,548 miles bridges and approaches from 3.5 miles East of Trinity River to 3.5 miles West of Palestine, R. B. Butler, Inc., Bryan, Texas, \$248,262, Spencer Construction & Russel Smith, \$255,689;

Harris—Federal Project No. F 1057 (3), Control No. 271-14-2, Highway Loop 137, 3,386 miles flexible base and asphalt concrete pavement from .25 mile East of Lockwood Drive in Houston to S.H. 73 (Sections), Brown & Root, Inc., Houston, Texas, \$149,286, Gulf Bitulithic, Houston, Texas, \$150,024;

McCulloch—Federal Project No. S 1776 (1), Control No. 129-1-6, Highway F. M. 1311, 2,977 miles grading, structures, base and surface from end of F. M. 1311, 13.5 miles S. W. Brady, S. W. to Menard County Line, Ernest Loyd, Fort Worth, Texas, \$35,835, John F. Buckner & Sons, Cleburne, Texas, \$38,211;

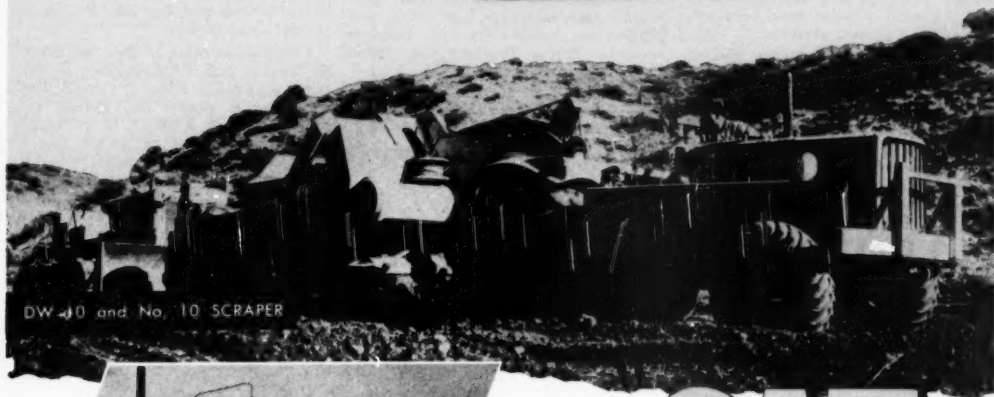
Terry—Federal Project No. S 1808 (1), Control No. 1716-1-1 & R 1716-1-2, Highway F. M. 847, 8,967 miles grading structures, base and surface from U.S. 380 at Gomez, South and Northwest to road intersection, Ernest Loyd, Fort Worth, Texas, \$70,057, Kerr & Middleton, Lubbock, Texas, \$72,386;

Anderson—Federal Project No. S 1821 (1), Control No. 1707-1-1, Highway F. M. 645, 7,817 miles grading, structures, base and surface from U. S. 287 at Tennessee Colony to F.M. 320 at Johnson, E. W. Hable & Sons, Corsicana, Texas, \$62,526, Foley & Williams, Contractors, \$66,444;

Haskell—Federal Project No. S 1305 (1), Control No. 1247-1-2, Highway F.M. 1080, 3,676 miles grading, structures, base and surface from 3.5 miles East of U. S. 277 to 3.6 miles Southeast, Stephen Luce & A. L. Sheppard, \$39,933, Stone

(Continued on page 18)

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To men who move earth, profits are *mighty* important. And "Caterpillar" rubber-tired equipment like that shown here offers many ways of actually *boosting* profits! They combine high speeds with high capacities. This adds up to increased production . . . and *increased* profits!

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Louisiana Highway Bids Aggregate \$2,530,944

Highway and bridge projects covered by the first four bid openings of the Louisiana Department of Highways last month would involve expenditure of \$2,530,944, according to a tabulation of the low proposals submitted by contractors. Included in the opening were projects in the following parishes:

Jackson—State Project No. 68-02-05, Chatham-Ruston Highway, 7.164 miles shaping roadway, gravel base course, or as an alternate, iron ore, base course and bituminous surface treatment (asphalt cement), L. M. Winford, Minden, La., \$154,577;

Rapides—State Project No. 142-01-07, Pineville-Kolin Highway, 4.070 miles grading, drainage structures, two-4 @ 20 ft and two-6 @ 20 feet concrete slab span bridges, gravel base course, or as an alternate, soil cement base course and bituminous surface treatment (asphalt cement), Henry & Hall, Dubach, La., \$255,195;

Cameron—State Project No. 193-01-07, Cameron-Creole Highway, 9.604 miles of 20 feet bituminous surface treatment (cut-back asphalt), Campbell Construction Co., Inc., Shreveport, La., \$487,283;

Terrebonne—State Project No. 246-01-08, Houma-Dulac Highway, 5.915 miles grading, small drainage structures and portland cement concrete pavement, W. R. Aldrich & Co., Baton Rouge, La., \$413,256;

Calcasieu—State Project No. 607-01-03, Lake Charles Storage Barn, one 30 feet by 132 feet by 12 feet prefabricated steel building, fully erected on concrete foundation, Armco Drainage & Metal Products, Inc., Alexandria, La., \$11,925;

West Feliciana—State Project No. 863-04-06, base course gravel (Grade A), spot-dumped on the Jackson-Wakefield Highway, State Route No. 258, W. H. Patterson & Co., Baton Rouge, La., \$18,643;

West Feliciana—State Project No. 863-02-04, base course gravel (Grade A), spot-dumped on the Wakefield-Jackson Highway, State Route No. 258-D, W. H. Patterson & Co., Baton Rouge, La., \$10,281;

St. Landry—State Project No. 607-84-03, Contract 2, Opelousas unit barn water well, drilling water well complete with tank, motor and pump, Amy Drilling Co., Opelousas, La., \$1,946;

Morehouse—State Project No. 703-08-93, Part 2, furnishing washed gravel f.o.b. railroad cars at various destinations for use on certain public roads, Arkadelphia Sand & Gravel Co., Arkadelphia, Arkansas, \$4,012;

Washington—State Project No. 703-09-33, furnishing washed gravel and sand clay gravel (Grade B), f.o.b. parish trucks and surface treatment aggregates stock-piled at road sites for use on certain public roads, Items 1, 6 and 9, Levi Corkern Sand & Gravel, Franklinton, La., \$3,119; Items 2-X, 2-Y & 8, Winfred W. Bateman, Clifton, La., \$2,499; Item 3, Standard Gravel Co., Franklinton, La., \$1,000; Items 4-X, 4-Y, 4-Z, 5-X and 5-Y, Lakeview Sand & Gravel Co., Bogalusa,

La., \$5,490; Item 7, Woodrow W. Gerald, Franklinton, La., \$1,875;

Lafayette and Acadia—State Project No. 207-06-01, Indian Bayou-Rayne Highway, 4.838 miles grading, drainage structures, reinforced concrete slab span bridge, aggregate type base course and bituminous surface treatment (asphalt cement), Barber Brothers Co., Baton Rouge, La., \$362,190;

Rapides and Avoyelles—State Project No. 142-01-08, 142-02-04 and 33-03-14, Pineville-Monola Highway, 9.948 miles shaping roadway, drainage structures, 3 @ 19 feet spans creosote timber bridge, gravel base course and bituminous surface treatment (asphalt cement), W. R. Core, Glenmora, La., \$173,089;

Morehouse—State Project No. 172-01-06 and 834-07-05, Log Cabin-Twin Oaks and Jones-Laark Highways, 6.501 net miles of bituminous surface treatment (asphalt cement), L. M. Winford, Minden, La., \$170,959;

Jefferson—State Project No. 703-09-35 and 714-01-59, roads in Harvey and Gretna, 5.550 miles shell base course and bituminous surface treatment (asphalt cement), T. W. Kleinpeter, Baton Rouge, La., \$73,761;

Franklin—State Project No. 165-03-05, base course gravel (Grade A), spot-dumped on the Fort Necessity-Extension Highway, R. G. Cruse & W. R. Slay, Sicily Island, La., \$25,438;

Winn—State Project No. 345-01-01, surface course gravel (Grade A), or as an alternate, surface course iron ore (Grade A), spot-dumped on the old Newport-Kelly Highway, State Route No. 246, L. M. Winford, Minden, La., \$6,409;

Rapides—State Project No. 703-09-37, surface course sand clay gravel (Grade B modified), spot-dumped on the Glenmora-Turkey Creek Road, W. R. Core, Glenmora, La., \$12,480;

Caldwell—State Project No. 345-02-02, furnishing surface course gravel (Grade A), or as an alternate, surface course iron ore (Grade A), spot-dumped on the old Newport-Kelly Highway, State Route No. 246, L. M. Winford, Minden, La., \$14,730;

Evangeline—State Project No. 820-26-03, base course gravel (Grade A), spot-dumped on the Basile-Northeast Highway, State Route No. 7-D, Alexandria Gravel Co., Inc., Alexandria, La., \$40,557;

Lincoln—State Project No. 703-09-25, washed gravel spot-dumped on certain public roads, Item 1, L. M. Winford, Minden, La., \$16,356; Item 2, Monroe Sand & Gravel Co., Inc., Monroe, La., \$30,030;

Catahoula and Concordia—State Project No. 703-09-23, washed gravel and surface course gravel (Grade A), spot-dumped on certain public roads, Item 1, Quality Gravel Co., Alexandria, La., \$5,250; Items 2 & 2A, R. G. Cruse & W. R. Slay, Sicily Island, La., \$4,805; Item 3, Paul A. Lambert, Simmesport, La., \$3,135;

Tensas—State Project No. 703-09-29, 1.5 miles washed gravel, spot-dumped, R. G. Cruse and W. R. Slay, Sicily Island, La., \$3,150;

Avoyelles—State Project No. 703-09-30, corrugated metal pipe arch unloaded at site for use on a certain public road, Louisiana Metal Culvert Co., Baton Rouge, La., \$1,484;

Acadia—State Project No. 703-09-31, washed gravel f.o.b. railroad cars at various destinations for use on certain public roads, Gifford Hill and Co., Inc., Alexandria, La., \$10,556;

Tangipahoa—State Project No. 703-09-34, washed gravel spot-dumped on certain public roads, Items 1, 2 and 5, Watson Sand & Gravel Co., Fluker, La., \$3,753; Items 3, 4 and 8, J. J. Rogers Gravel Co., Tickfaw, La., \$3,290; Item 6, Rogers Bros. Sand & Gravel Co., Tickfaw, La., \$1,915; Item 7, Independence Sand & Gravel Co., Independence, La., \$3,101;

Richland—State Project No. 703-09-36, washed gravel spot-dumped on the Rayville Elementary School Road, Monroe Sand & Gravel Co., Inc., Monroe, La., \$936;

Bossier—State Project No. 90-01-05, Elm Grove-Lake Bistineau Dam Highway, 3.6 miles base course gravel (Grade A), placed and spread, L. M. Winford, Minden, La., \$28,320;

Natchitoches—State Project No. 713-01-07, Clear Lake-Goldonna Highway, 10.2 miles of surface course sand clay gravel (Grade B modified), placed and spread, Forcum James Co., Baton Rouge, La., \$16,380;

St. Landry—State Project No. 607-84-02, Contract 1, one (1) 60 foot by 100 foot by 14 foot prefabricated steel building fully erected, Southern Steel & Hardware Supply Co., Inc., Lafayette, La., \$13,915;

Livingston—Control Unit No. 260-5, washed gravel, spot-dumped on the Springfield-Killian Highway, Rogers Brothers Sand & Gravel Co., Tickfaw, La., \$5,656;

West Baton Rouge—State Projects Nos. 703-09-27 and 861-08-04, furnishing base course gravel (Grade A), spot-dumped on road in Brusly and the Brusly-Merlin Highway, Paul A. Lambert, Simmesport, La., \$5,804;

Ascension—State Project No. 803-13-03, base course gravel (Grade A), spot-dumped on the Galvez-West Highway, Amite Sand & Gravel Co., Inc., Baton Rouge, La., \$12,380;

Ascension—State Project No. 803-18-06, base course gravel (Grade A), spot-dumped on the Galvez School-Port Vincent Highway, Amite Sand & Gravel Co., Inc., Baton Rouge, La., \$1,239;

Ascension—State Project No. 803-19-03, base course gravel (Grade A), spot-dumped on the Galvez-Galvez School Highway, Amite Sand & Gravel Co., Inc., Baton Rouge, La., \$12,506;

St. Tammany—Purchase Requisition No. 18378A, washed gravel spot-dumped on various public roads, Paul A. Lambert, Simmesport, La., \$8,774;

St. Tammany—Purchase Requisition No. 18379A, washed gravel spot-dumped on various public roads, Kivett & Reel, Inc., Sun, La., \$24,025;

East Baton Rouge—State Projects Nos. 7-08-02 and 7-09-15 (Part 2), sale of state-owned buildings and appurtenances located within the right-of-way limits

of the Bayou-Manchac-Nesser Highway near the intersection of the Airline Highway (State Route 1500) and the old Jefferson Highway (State Route 1), Item 1, Oliver C. Harrell, Baton Rouge, La., \$7,225; Item 2, LeBlanc Brothers, Baton Rouge, La., \$1,061;

Washington—State Project No. 703-09-33, Part 1, washed gravel and sand clay gravel (Grade B), spot-dumped on certain public roads, Items 1, 6 and 9, Levi Corkern Sand and Gravel, Franklinton, La., \$6,999; Items 2-X, 2-Y & 8, Winfred W. Bateman, Clifton, La., \$5,736; Items 5-X and 5-Y, Lakeview Sand & Gravel Co., Bogalusa, La., \$2,960; Item 7, Woodrow W. Gerald, Franklinton, La., \$1,875;

Washington—State Project No. 703-09-33, Part 2, washed gravel f.o.b. parish trucks and surface treatment aggregates stock-piled at pit and furnished f.o.b. parish trucks from the stockpile all for use on certain public roads, Item 3, Standard Gravel Co., Franklinton, La., \$1,000; Items 4-X, 4-Y and 4-Z, Lakeview Sand & Gravel Co., Bogalusa, La., \$2,484;

Rapides—State Project No. 703-09-37, surface course sand clay gravel (Grade B modified), spot-dumped on the Glenmora-Turkey Creek Road, Pankey Wheat, Oakdale, La., \$5,705;

Livingston—State Project No. 703-09-38, 5.3 miles of washed gravel surface course, Amite Sand and Gravel Co., Inc., Baton Rouge, La., \$12,998;

Avoyelles—State Project No. 714-01-56, base course gravel (Grade A), spot-dumped on roads in Cottonport, M. L. Johnson, Baton Rouge, La., \$17,340;

Lafourche—State Project No. 829-04-08, clam shell, spot-dumped on the Laurel Grove-Chegby Highway, Stevens & Co., Inc., in Receivership, \$52,626;

Lafourche—State Project No. 829-10-04, clam shell, spot-dumped on the Clotilda-Gheens Highway, Leftwich Company, Inc., New Orleans, La., \$56,672.

Spencer Chemical Proceeds on \$14,000,000 Plant

The new \$14,000,000 Vicksburg, Miss. works of Spencer Chemical Co. is now under construction.

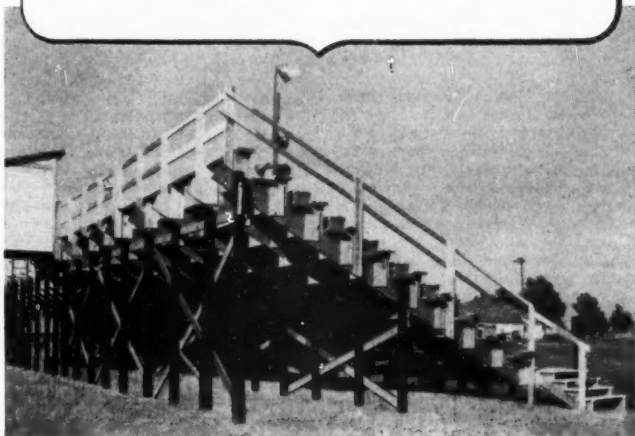
Earth work for the project is being handled by Maloney Brothers, of Jackson, Miss. The gas process section will be designed and erected by Foster Wheeler Corp. Remainder of the plant is covered under a contract with Quaker Valley Constructors, Inc., of Pittsburg, Kansas.

The plant will produce anhydrous ammonia and ammoniating solutions for sale to industry and agriculture. Construction is scheduled for completion about the middle of 1953, according to R. F. Brown, Spencer official.

Lund Appointed Manager at Shreveport

John Lund has been appointed district manager of Air Reduction Magnolia Co., a division of Air Reduction Co., Inc. With headquarters at Shreveport, La., Mr. Lund will have sales responsibility for the Shreveport District, assuming the responsibilities of Heber T. Wadley, deceased.

BUILT QUICKLY...CHEAPLY WITH Pole-Type Construction



Bleachers supported by Koppers Pressure-Treated Poles.

LAST Fall, the high school in Yuma, Colorado, needed more seats for spectators—needed them in a hurry. Within a few days, the 90-foot bleachers shown here were built by the local Lions Club.

No Foundations Required

The pole-type method of construction, used in building these bleachers, speeds up and simplifies the erection of many different kinds of structures, from newsprint warehouses to barns. No foundations are required . . . structures are carried by poles that go deeply enough into the ground to provide solid support and strength. Costs can be cut almost in half, yet the completed structures can be just as permanent and practical as the more expensive, conventional type.

Poles Are Important

With this kind of construction work, the quality of the poles is important. Koppers Poles are made from sound, strong wood. Pressure-treatment with creosote is deep and thorough, protecting poles against rot and termites. Koppers Poles give decades of good service, making them extremely economical. They require no painting and never rust.

- If you have a question about pole-type construction please write to Wood Preserving Division, Koppers Company, Inc., Pittsburgh 19, Pennsylvania.



PRESSURE-TREATED WOOD

Mississippi River Bridge

(Continued from page 11)

and draw span which, first built in 1928, now crosses Bay St. Louis approximately 2,000 feet south of the new site. Merritt-Chapman & Scott's contract includes removal of the existing span, with piles and concrete footings cut off below ground level.

Because of terrain problems, a good part of Merritt-Chapman & Scott's work on the project from the time of ground breaking through the end of the year centered on site preparation. As accompanying photos show, an extensive pre-casting yard had to be built atop a site which was largely swamp when work began. A channel also had to be dredged to provide flotation at the bridge site for the fleet of M-C&S floating equipment which will see service on the project.

The dredging operation made it possible, incidentally, for the city of Bay St. Louis to achieve a long dream of obtaining its first sand beach as a recreational area. Originally, it was planned to pump the sand into a swamp area along the waterfront. Civic leaders asked M-C&S project manager Roderick M. Hand whether some of it could be pumped instead, onto a quarter-mile waterfront strip suitable as a beach site; were told M-C&S would be glad to do it if easements were obtained from property owners. Easements were quickly obtained; pumping was started on a Thursday and by Tuesday of the next week the quarter mile strip was covered with a blanket of sand 200 feet wide and four feet deep.

In an editorial which made the point that "Cooperation Will Work Miracles" the local newspaper *Sea Coast Echo*, said in part:

"To our City officials, to the firm of Merritt-Chapman & Scott and to all others who gave their time to make possible this much needed project for Bay St. Louis, we say, not for ourselves, but we think for all of the people of Bay St. Louis, Thank You."

Work to fill in the swampy area on which the M-C&S yard was built on the Bay St. Louis side of the bridge site was completed in mid-October. After that, installation immediately went forward on a 30-foot track to mount a whirley crane, and a parallel 50-foot track to mount the giant gantry which will handle the 118-ton sections of precast roadway slab.

The whirley, rigged with a 105-foot boom, will be used primarily to lift and load aboard barges all of the 24 by 24-in. and 18 by 18-in. precast piling and girders used in construction. Lengths will range from 41 feet to approximately 100 feet and forms are set up in 10-foot sections so as to allow M-C&S to pour in lengths required. The casting yard is arranged to permit simultaneous work on 200 piles, so that they can be poured at an average rate of 12 per day and permit 21 days for thorough curing before driving.

The lower section of the gantry for handling precast deck slabs was sent to the Bay St. Louis site from the M-C&S yard at Cleveland, where it was used by the company during construction of the 10-foot inner diameter, 18,500-foot long

Nottingham intake. The upper portion of the gantry was designed by M-C&S especially for the Bay St. Louis project, was assembled at the company's Staten Island Yard and shipped from there for installation at the project site.

All concrete used on the project will be provided by a central mix plant erected by the contractor. It features an Erie GTE 118-ton capacity portable four-compartment aggregate and cement bin, teamed with a 35-B dual drum mixer, a 35-ton cement elevator, 450-barrel ground storage bin and a 200-B Pumpcrete machine.

M-C&S personnel on the job with project manager Roderick M. Hand include H. Woolwine, job engineer; R. P. Neely, job accountant; A. W. Lueken, field purchasing agent; Frank Cooper, yard superintendent; John Mills, construction superintendent and John Tooker, marine superintendent. The project is under the overall direction of William Denny, vice president in charge of the company's New York marine and heavy construction division and Ralph E. DeSimone, president. Charles S. Hill is resident engineer for Hazelet and Erdal.

Missouri Pacific Terminal

(Continued from page 12)

to permit passage of trains when cars are being placed at the platforms, these bridges, when they are to be closed to permit the passage of cars, are depressed and then rolled beneath the platforms. They operate on steel rails of eight-foot gauge.

The entire structure is built of steel and concrete with corrugated asbestos roofing and siding applied on a rigid steel frame which has been bolted and welded together. There are no pillars along the center platforms so the flow of traffic along the platforms is not impeded.

At each location where a freight car will be placed there is an extension light which may be taken into the car and placed for the most convenient illumination of the car interior, and telephones and a public address system is so arranged along the platforms that communication is almost instantaneous.

At the north end of the structure and facing Miller street are the office quarters, two stories in height and faced with brick and ornamental stone. On the first floor are the private office of the agent, the cashier's office, cooper shop and wash and locker rooms, while the office force is housed on the second floor.

The building is illuminated by fluorescent lights and heated from a boiler located at the east end of the first floor. Gas is used as fuel for the boiler. At the north end of the east platform is a garage and repair shop for maintenance of the platform tractors and other equipment to be used in handling freight.

The entire structure is classed as "highly fire resistant" and fire hoses, which are fed by automatic booster pumps as soon as the water is turned on, are placed at strategic points along all platforms. Frost-resistant fire extinguishers and special extinguishers for fighting oil and gas fires are provided along the platforms.

Big Texas Opening

(Continued from page 14)

Construction Co., Ardmore, Okla., \$40,842.

Hansford—Federal Project No. S 1553 (1), Control No. 1621-1-1, Highway F.M. 520, 5,262 miles grading, structures, base and surfacing from S. H. 117, 5.2 miles Southwest of Spearman, West to McKibben Switch, Ernest Loyd, Fort Worth, Texas, \$50,052, Bell, Braden, Barker & Gilvin, \$51,372.

Jasper—Federal Project No. S 1849(1), Control No. 948-2-1, Highway F.M. 1747, 4,939 miles grading, structures, base and surfacing from S. H. 63, approximately 8 miles West of Jasper to U. S. 190 near Science Hall, Menefee Brothers & Alford, Center, Texas, \$60,882, Moore Brothers Construction, \$62,716.

San Patricio—Federal Project No. S 1410 (2), Control No. 994-1-5, Highway F.M. 630, 5,161 miles grading, structures, base and surfacing from Sinton, West to Junction with F.M. 894, J. M. Dellinger, Corpus Christi, Texas, \$51,086, J. Carroll Weaver, Sinton, Texas, \$54,289.

McMullen—Federal Project No. S 1706 (1), Control No. 1546-2-1 & C 483-3-6, Highway F.M. 1106 & 63, 10,832 miles grading, structures, base and surfacing from F. M. 63, South 4 miles toward Wentz, from Live Oak County line to 6.8 miles West, J. M. Dellinger, Inc., Corpus Christi, Texas, \$56,016, Cage Brothers, San Antonio, \$64,414.

Nacogdoches—Federal Project No. S 1649 (1), Control No. 1407-2-1, Highway F.M. 1638, 6,538 miles grading, structures, base and surfacing from West city limits of Nacogdoches to junction with F. M. 698, T. R. Vardeman & Son, Nacogdoches, Texas, \$66,905, Foley & Williams, Tyler, Texas, \$69,929.

El Paso & Hudspeth—Highways F.M. 258, 76, 192, 659, 1437, 45,069 miles seal coat, Hugh McMillan, El Paso, Texas, \$45,570, C. Hunter Strain, San Angelo, Texas, \$46,480.

Scurry—Control No. V 1361-3-3, Highway F. M. 1231, 7,941 miles grading, structures, base and surfacing from 8 miles North of Snuder to Kent County line, Bryan & Hoffman, Plainview, Texas, \$141,644, Stephen Luce & A. L. Sheppard, \$142,874.

Dawson—Control No. C 68-4 & 5 & 12, Highway U. S. 86, 3,277 miles grading, structures, flexible base and three course surface treatment from 7th Street in Lamesa North to F.M. 179, from near South city limits of Lamesa to Junction U. S. 180, Kerr & Middleton, Lubbock, Texas, \$83,958, Ernest Loyd, Fort Worth, Texas, \$84,836.

Hudspeth—Control No. C 374-7-5, Highway U. S. 62 & 180, 19,155 miles seal coat from 45.68 miles East of El Paso County Line to Culberson County Line, Hugh McMillan, El Paso, Texas, \$17,240, C. Hunter Strain, San Angelo, \$17,743.

Harris—Federal Project No. U 514 (13), Control No. 177-11-3, Highway U.S. 59, 1,905 miles grading, storm sewers, flexible base, asphalt surface, concrete pavement, bridges, etc., Baxter Construction Co., Houston, Texas, \$362,623, Farnsworth & Chambers, \$373,235.



Above—New plant of Bishopville Finishing Co., Bishopville, S. C. division of Reeves Brothers, Inc. Modern in design and construction, the plant is equipped with latest equipment for processing synthetic fabrics, especially wide, heavy materials. Lockwood Greene Engineers, Inc., of Spartanburg and New York, are the engineers and architects; Fiske-Carter Construction Co., Spartanburg, the general contractors.

Year Starts With \$323,061,000 in Contract Awards

SOUTHERN construction started the year with a January total of \$323,061,000, this representing an increase of thirty-four per cent when compared with the figure for the last month of the preceding year.

The first-month aggregate is made up of \$97,077,000 for public building; \$73,139,000 for heavy engineering projects; \$63,189,000 for industrial work; \$56,701,000 for private building, and \$32,955,000 for highways and bridges.

Four of the five categories show rises above the December level, with one dropping. The increases were fifty-seven per cent for public building; thirty-three per cent for heavy construction; thirty-nine per cent for private building, and one hundred fifty-nine per cent for industrial projects.

Highways and bridges in the contract stage, as tabulated from reports in the Daily Construction Bulletin of the MANUFACTURERS RECORD, amounted to \$32,955,000, this without several large lettings for which figures had not been received at the end of the month. The spread between the incomplete total and the figure for the preceding month will undoubtedly be reduced considerably by the additional lettings.

Public building, the strongest category in January, embraced \$73,676,000 for government building, which has been particularly active, and \$23,401,000 for schools, where allocations of scarce materials have not been so favorable.

While the \$73,676,000 for government buildings is up over one hundred per cent when compared with the level of

similar work in December, the \$23,401,000 for school building is down about nine per cent.

Heavy engineering construction, with its \$73,139,000, ranked second among those in the January picture. The components were \$54,252,000 for dams, drainage and airports; \$9,720,000 for sewers and water works, and \$9,167,000 for federal electric projects.

The changed completion of the heavy engineering picture is apparent when a review of the December figures shows \$27,570,000 for the dams-airport-earthwork field; \$18,910,000 for sewer and water work, and \$8,196,000 for federal electric projects.

Industrial construction in January augmented already active projects by \$63,189,000, the total which indicated the largest gain when compared with the figure for the preceding month.

Included among the larger projects registered during the month were a \$14,000,000 chemical plant at Vicksburg, Miss.; \$6,468,000 grain elevator for New Orleans, La.; a \$1,700,000 alkylation unit at Duncan, Okla., a \$1,411,000 tire and rubber company warehouse at Gadsden, Ala.

Private building, totaling \$56,701,000 in the first month, embraced \$36,638,000 for residential projects such as apartments, hotels and dwellings; \$7,458,000 for assembly structures including churches, theatres and auditoriums; \$6,654,000 for office buildings and \$5,951,000 for commercial projects.

Despite the difficulties accompanying the start of work in the private category, the gain in value of residential projects reported in January amounted to twenty-six per cent.

Strength was also recorded in value of the other elements of private building. For assembly buildings, the increase was one hundred fifty per cent; for commercial projects, one hundred fifteen per

(Continued on page 20)

SOUTH'S CONSTRUCTION BY TYPES

	January, 1952		Contracts Awarded January 1951
	Contracts Awarded	Contracts to be Awarded	
PRIVATE BUILDING			
Assembly, (Churches, Theatres, Auditoriums, Fraternal)	\$7,458,000	\$7,200,000	\$8,268,000
Commercial (Store, Restaurants, Filling Stations, Garages)	5,951,000	355,000	14,401,000
Residential (Apartments, Hotels, Dwellings)	36,638,000	31,510,000	111,048,000
Office	6,654,000	4,015,000	10,954,000
	\$56,701,000	\$45,080,000	\$144,671,000
INDUSTRIAL	\$63,189,000	\$99,808,000	\$820,619,000
PUBLIC BUILDING			
City, County, State, Federal, and Hospitals	\$73,676,000	\$30,872,000	\$27,245,000
Schools	\$23,401,000	\$2,993,000	\$8,635,000
	\$97,077,000	\$63,775,000	\$55,880,000
ENGINEERING			
Dams, Drainage, Earthwork, Airports	\$54,252,000	\$62,900,000	\$7,718,000
Federal, County, Municipal Electric	9,167,000	1,607,000	5,899,000
Sewers and Waterworks	9,720,000	6,734,000	17,138,000
	\$73,139,000	\$71,241,000	\$25,785,000
ROADS, STREETS, BRIDGES	\$32,955,000	\$38,107,000	\$35,511,000
TOTAL	\$323,061,000	\$316,011,000	\$1,082,466,000



Above—Completely air conditioned two-story reinforced concrete plant being built at Dallas, Texas, by O'Rourke Construction Co. for Mrs. Baird's Bakeries, Inc. George L. Dahl is the architect and engineer.

Year Starts With \$323,061,000 In Contract Awards

(Continued from page 19)



cent; for office building, eleven per cent.

The highway and bridge figure, without returns estimated to raise its level, substantially included \$10,791,000 for Texas work; \$4,613,000 for a large Florida opening and \$3,453,000 for projects in Missouri, as well as a similar figure for the first four bid openings in Louisiana.

With government restrictions in use of critical materials accounting for much of the decline in what is usually referred to as non-defense construction, the announcement last month that the steel industry is now within 9.5 per cent of the 120,000,000-ton annual capacity to be reached in 1953 under its current expansion program is a bright spot in an otherwise much confused situation.

Emphasis seems to be placed on the number of disapprovals by National Pro-

duction Authority offices rather than on positive action. In one southern area, for a recent period, the denials totaled 37 with an estimated cost of \$5,600,000, as compared with allowed projects with a value of \$810,272.

In the New York area, authorizations were made for start or continuation of 16 commercial and institutional building projects, with denials of 36 others for the first quarter of 1952.

Of the approved projects, eight required allotment of controlled materials and represented expenditure of \$4,037,000. One, for \$38,000, required no allotment, and seven, amounting to an estimated \$1,110,000 were declared exempt. The 36 denials would have cost about \$11,200,000.

Construction costs at the beginning of the year were at an all-time high, according to the American Appraisal Co., which said its construction cost index rose 22 points, or four per cent during 1951. The rise was influenced largely by further wage increases in the building construction trades.

Reports from Atlanta indicate that the prices of building materials in the metropolitan area, after remaining stable for four consecutive months, started to decline slightly during mid-January.

Forty-four commodities were surveyed in January at Atlanta. Prices on nine showed a slight decrease during the month; thirty-three remained unchanged, and the remaining two advanced slightly.

The outlook for construction this year, which is somewhat borne out by the first month figures for the South, is that the sharpest difficulties for construction other than that supporting defense should be felt during the first six months.

Another peak period for fabricated structural steel production anticipated this year should ease the supply of this critical material in the latter half of 1952 to the extent that an upswing in building

Left — Perspective of the Continental Bank Building, which is rising twenty-eight floors above grade at Fort Worth, Texas. Butcher & Sweeney, of Fort Worth, are the general contractors; Preston M. Geren, the architect and engineer.

SOUTH'S CONSTRUCTION BY STATES

	January, 1952		Contracts
	Contracts	Contracts	Awarded
	Awarded	Awarded	January
Alabama	\$19,877,000	\$8,630,000	\$38,702,000
Arkansas	1,274,000	11,486,000	5,277,000
District of Columbia	3,384,000	3,140,000	2,390,000
Florida	41,827,000	12,257,000	21,761,000
Georgia	17,092,000	7,347,000	12,332,000
Kentucky	25,495,000	24,162,000	324,377,000
Louisiana	40,555,000	14,857,000	20,891,000
Maryland	19,072,000	28,846,000	35,189,000
Mississippi	19,149,000	5,868,000	6,235,000
Missouri	8,000,000	13,924,000	32,129,000
North Carolina	11,849,000	13,330,000	22,667,000
Oklahoma	11,483,000	24,583,000	3,586,000
South Carolina	11,625,000	6,843,000	361,165,000
Tennessee	26,115,000	41,192,000	27,732,000
Texas	57,425,000	71,139,000	83,971,000
Virginia	23,317,000	9,050,000	12,924,000
West Virginia	672,000	15,920,000	21,800,000
TOTAL	\$323,061,000	\$316,011,000	\$1,082,466,000

(Continued on page 57)

GM DIESEL

Case History No. 5011-27

USER: Thomasville Stone and Lime
Company, Thomasville, Pennsylvania

INSTALLATION: 3-71 and 6-71 GM
Diesels power Joy Heavyweight
Champion blast hole drill; 3-71 for
rotary and propulsion, 6-71 on
compressor and "pulldown."

PERFORMANCE: Replaced 5 small
drills. Maximum footage with previous
equipment 15 feet per drill in 6½
hours; with new equipment 180 feet in
6½ hours. Reduces drilling manpower.
Fuel consumption: less than 7 gallons
per hour (both engines).



This Diesel replaces five drills — and more than doubles the footage

Case after case proves that any machine with General Motors Diesel power is a better machine — gets more work done at lower cost. Using General Motors 2-cycle design—this Diesel packs more power per pound, runs smoother and accelerates faster. Result—greater production per hour! With most parts interchangeable and easy

to replace—GM Diesels take less time out for servicing, cost less to maintain. Check it with other operators—prove it for yourself by specifying GM Diesel power in any equipment you buy.
DETROIT DIESEL ENGINE DIVISION
GENERAL MOTORS, DETROIT 28, MICHIGAN
SINGLE ENGINES... GM 1775 C.P. MULTIPLE UNITS... GM 1800 R.P.

It pays to Standardize on



Southern Construction Projects

(Typical and Important Reports Excerpted from Daily Construction Bulletin)

ALABAMA

ANNISTON—City let contract at \$119,144 to E. N. Murray, Buena Vista, Ga., for water distribution system and improvements.

ANNISTON—City Board of Education plans school, \$150,000.

ATHENS—City let contract at \$242,997 to Holt Rast & Assoc., Birmingham, for Contract A—sanitary sewer improvements.

BIRMINGHAM—67th St. Methodist Church Congregation plans building, \$120,000.

BIRMINGHAM—Hayes Aircraft Corp. let contract to Richardson Construction Co., Birmingham, at \$308,650, for reactivation of service pit.

COLLINSVILLE—Housing Authority has plans in progress for 25-unit housing project.

DECATUR—Housing Authority received low bid of \$783,000 for concrete from Sullivan, Long & Hagerty, 801—5th Ave., Birmingham; at \$793,000 for wood, from Sullivan, Long & Hagerty for housing project.

DEMOPOLIS—City let contract to A. Berney Jones, 409 Monroe St., Montgomery, at \$277,700 for Whitfield Memorial Hospital.

EVENGREEN—Conecuh County Hospital Association received low bid from Andalusia Development Co., Andalusia, at \$332,363, for hospital.

FORT McLELLAN—Corps of Engineers, Mobile, Ala., has working drawings and specifications in progress to be completed about April 30, by Van Keuren Davis & Co., American Life Bldg., Birmingham, Archts., for various buildings, WAC Training Center, between \$9,000,000 and \$10,000,000.

GADSDEN—Goodyear Tire & Rubber Co. received low bid from Mayhew & Son Construction Co., Gadsden, at \$1,411,600, for warehouse office building.

GUNTERSVILLE—Marshall County Hospital Association plans Health Center, \$125,000.

HAMILTON—City let contract to C. W. Williams, Marion, negotiated for manufacturing plant building for Marion Mills, \$300,000.

HUNTSVILLE—State Board of Education, Montgomery, plans dormitory at A&M College.

HUNTSVILLE—U. S. Engineer Office let contract to Banks, Ellett & Ramsay, Birmingham, for combustion test stand No. 2 and No. 3, Redstone Arsenal, \$150,000.

JASPER—Walker County Board of Education let contract at \$179,950 to Lynn H. Blair, Alexander City, for Walker County Training School for colored.

LEIGHTON—Colbert County Board of Education, Tusculuma, let contract at \$309,400 to Construction Engineers, Inc., Jasper, for high school.

MONTOSH—Calabaha Chemical Co. plans new plant to produce agricultural chemicals, \$500,000.

MONTGOMERY—Lawrence County Hospital Association received low bid from Chambers Hospital Co., Athens, at \$474,976, for 40-bed hospital.

ONIONDA—Housing Authority received low bid of \$273,283 from B&R Construction Co., Birmingham, Ala., for housing projects.

OPELIKA—Housing Authority let contract to Jones & Hardy, Montevallo, Ala., at \$550,177, for low-rent housing project.

OZARK—Board of Education received low bid of \$229,637 from Henderson, Black & Green, Troy, for addition to school.

SANDROCK—Cherokee County Board of Education plans elementary and high school, \$130,000.

TALLADEGA—City received low bids for waterworks filter plant and addition and raw water pumping station as follows: H. R. Coker, Sylva, Ala., Proposal A at \$136,917, and Proposal B at \$273,274.

TRUSSVILLE—Appleton Electric Co., Chicago, Ill., plans manufacturing plant, \$1,000,000.

TUSCALOOSA—Beta Phi Chapter Delta Gamma Fraternity, University of Alabama, received low bid of \$88,785 from O'Connor Construction Co. for house.

TUSCALOOSA—Dauid City Hospital will soon call for bids for 125-bed Nurses Home, cost approximately \$500,000.

TUSCALOOSA—Alabama Gas Co. received low bid of \$148,973 from Brice Building Co., Birmingham, Ala., for office building.

ARKANSAS

Arkansas-Oklahoma Interstate Committee plans requesting Congress for \$19,000,000 for bank stabilization and reservoir construction

work on Arkansas River and its tributaries.

ELAINE—Rural Telephone Co. has REA loan of \$166,000 to improve and expand rural telephone service in Phillips and Desha counties.

LITTLE ROCK—Corps of Engineers, 300 Broadway, will receive bids February 27 for approximately 2400 lin. ft. of two-row, single pile revetment with rock fill and approximately 1350 lin. ft. of standard revetment without mattress.

LITTLE ROCK—Boyd Dairy Co. plans plant, \$150,000.

NORTH LITTLE ROCK—Veterans Administration, Washington, D. C., received low bid from Baldwin Co., Little Rock, at \$247,519, for alterations and additions to dining hall.

NORTH LITTLE ROCK—Delta Insecticide & Chemical Co., affiliate of Stauffer Chemical Co., New York, will erect steel and concrete plant, \$100,000.

SHUMAKER—Navy Department, Public Works Office, let contract to Wilson Construction Co., Little Rock, at \$261,578, for completion of laundry, Naval Ammunition Depot.

DISTRICT OF COLUMBIA

WASHINGTON—District Commissioners received low bid of \$237,450 from Bass Construction Co., Birmingham, Mich., for five pumping units at Bryant Street Station.

WASHINGTON—District Commissioners received low bid of \$61,145 from Jullien Engineering Co., Arlington, Va., for trunk water line, 11th St. S.E.

WASHINGTON—Public Buildings Service, General Services Administration, received low bid from Merando, Inc., at \$98,000 for alterations, Riverside Stadium.

WASHINGTON—District Commissioners plans expenditures of \$300,000 for sewer project.

WASHINGTON—District Commissioners received low bid of \$384,000 from Merando, Inc., for addition to Adelaide Davis School.

WASHINGTON—District Commissioners received low bid of \$794,000 from J. D. Hedin Co., for alterations and additions to Hugh Browne Junior High School.

Products Pipeline Planned From Sugar Creek

Plans for a new 316-mile products pipeline from the Sugar Creek, Mo., refinery of Standard Oil Company (Indiana) to Dubuque, Iowa, have been announced by R. E. Nelson, Jr., general manager of products pipelines.

The new line, he said, is a part of Standard's expansion program to help meet the military and civilian demand for more and improved petroleum products.

At Dubuque the line will join an existing products pipeline from Standard's Whiting, Ind., refinery to Moorhead, Minn.

Construction of the Sugar Creek-Dubuque pipeline is scheduled for the third quarter of 1952, according to Mr. Nelson. The new line is expected to be ready for use in delivery of petroleum products early in 1953.

Mr. Nelson said approval has been obtained from the Petroleum Administration for Defense to construct the line, and priority ratings have been granted to obtain necessary materials.

The new Sugar Creek-Dubuque line will be of 12-inch pipe. It will traverse northern Missouri and eastern Iowa. It will transport gasoline, kerosene, tractor fuel, furnace oil, heater oil, and diesel fuel.

WASHINGTON—District Commissioners received low bid of \$394,744 from E. L. Daniels, Arlington, Va., for addition to Francis Junior High School.

WASHINGTON—U. S. Capitol received low bid from Humphreys & Harding, New York, N. Y., at \$586,520, for boiler plant alterations in connection with changes and improvements to Capitol Power Plant.

WASHINGTON—District Commissioners received low bid of \$581,000 from F. H. Martell Co., for additions to Bunker Hill School and to Keene School.

FLORIDA

FLORIDA—Corps of Engineers, Mobile, Ala., received low bid of \$13,907,379 from Perini-Walsh-Mills & Blythe Bros., Constr. Co., Box 308, Chattahoochee, Fla., for spillway, powerhouse and switchyard, Jim Woodruff Dam.

COCOA—Corps of Engineers, Jacksonville, received low bid from Ellington Construction Co., P. O. Box 1048, Cocoa, at \$57,880, for utilities for administration area in launching area, Cape Canaveral.

COCOA—Corps of Engineers, Jacksonville, will receive bid about February 27 for communications terminal building, Launching Area, Air Force Missile Test Center.

DADE COUNTY—Dixie Plywood Co., 3727 NW 54th St., let contract to Frank M. Kendall & Son, 1777 NW 4th St., Miami, at \$97,686, for warehouse.

DADE COUNTY—Allapattah Baptist Church Congregation let contract to J. R. Hutchinson, 4624 NW 15th Court, Miami, at \$46,320, for building.

DADE COUNTY—Blue Seas Hotel, Inc., let contract to Shinn Construction Co., 12345 W. Dixie Hwy., at \$115,000, for motel.

EGLIN FIELD—Corps of Engineers, Mobile, Ala., let contract to Greenhous Construction Co., Box 1175, Pensacola, at \$844,444, for heavy systems buildings, Eglin Air Base.

FORT LAUDERDALE—Harold Reese will construct 6-unit apartment building, cost \$60,000.

FORT PIERCE—St. Lucie County Board of Public Instruction will receive bids February 28 for high school for colored.

FORT PIERCE—St. Lucie County Board of Public Instruction will receive bids February 28 for addition to Fairlawn Elementary School.

JACKSONVILLE—Baptist Hospital Board of Trustees contemplates hospital.

JACKSONVILLE—Board of Public Instruction will receive bids February 27 on \$4,000,000 bond issue for school construction.

JACKSONVILLE—Duval County Board of Education received low bid of \$625,337 from East Coast Construction Co. for James Weldon Johnson Senior High School.

BOCA CHICA—Navy Department, Charleston, S. C., received low bid from Ivy H. Smith Co., 1525 San Marco Blvd., Jacksonville, at \$352,022, for jet aviation fuel storage, U. S. Naval Air Station.

LAKE WALES—Lake Wales State Bank will receive bids February 26 for bank building.

LARGO—Pinellas County Board of Public Instruction, 305 Haven, Clearwater, let contract at \$403,607 to Arnold Construction Co., Tampa, for elementary school.

LAUDERDALE—BY-THE-SEA—Pat Cullen, 918 NE 1st St., plans apartment building.

MIAMI—City let contract to Nichols Engineering & Construction Co., 70 Pine St., New York, N. Y., at \$2,898,000, for refuse incineration plant with waste heat boilers.

MIAMI—Seralles Everglades Farms, Inc., 117 NE 1st Ave., let contract to Witters Construction Co., 1387 SE 10th Court, Hialeah, at \$1,021,000, for bank and store building.

MIAMI—Navy Department, Public Works Office, Charleston, S. C., will receive bids February 28 for reinforcement of airfield pavements, U. S. Marine Corps Air Station.

MIAMI—Florida World's Fair, Inc., Hollis Rinehart, Pres., has acquired 1,000 acres of land in Dade and Broward counties as a site for a world's fair in 1953-54.

MIAMI BEACH—Leonard H. Glasser, 835 Lincoln Road, Miami Beach, plans 14-unit apartment building, 77th St. & Dickens Ave.

MIAMI BEACH—City of Miami Beach received low bid of \$388,635 from Powell Bros., Inc., 14 SW 1st Ave., for superstructure bascule span of 63rd St. bridge.

ORLANDO—Corps of Engineers, Jacksonville, let contract to W. H. Herrin, P. O. Box

1252, Lakeland, at \$192,568, for maintenance and supply group headquarters, academic building, AIO administration building, paint and dope storage building, Pinecastle Air Force Base.

PENSACOLA—Housing Authority received low bid of \$804,980 from Dyson & Co. for concrete, and low bid of \$786,980 from Dyson & Co. for housing project.

PENSACOLA—Board of Public Instruction let contract at \$757,400 to Dyson & Co. for high school.

ST. PETERSBURG—Pinellas County Board of Public Instruction, 305 Haven, Clearwater, let contract at \$681,077 to Arnold Construction Co., Tampa, for elementary-junior high school for negroes.

SUMTER COUNTY—State Road Department received low bid of \$156,142 from J. D. Manley Construction Co., Leesburg, Fla., for grading, stabilizing, paving.

TAMPA—Corps of Engineers, Jacksonville, received low bid from Georgia-Alabama Paving Co., P. O. Box 967, Columbus, Ga., at \$1,379,698, for additional airfield paving and pavement overlay, MacDill Air Base.

TAMPA—Corps of Engineers, Jacksonville, received apparent low bid from C&C Construction Co., Fort Wayne, Ind., at \$415,326, for sewage treatment plant, MacDill Air Base.

TAMPA—Corps of Engineers, Jacksonville, let contract to Balkin Construction Corp. 161—8th Ave., New York, N. Y., at \$247,249, for cold storage building, MacDill Air Force Base.

TAMPA—Hillsborough County Board of Public Instruction, J. Crockett Farnell, County Supt., received low bid of \$292,390 from Chester Mabry Construction Co., 1529 Grand Central Ave., for new James Madison Junior high school.

TAMPA—Corps of Engineers, Jacksonville, let contract to W. H. Herrin, Lakeland, at \$494,228, for armament electronics repair shop, warehouse and secure storage buildings, MacDill Air Base.

TARPON SPRINGS—Pinellas County Board of Public Instruction, 305 Haven, Clearwater, let contract at \$379,125 to Arnold Construction Co., Tampa, for elementary school.

WEST PALM BEACH—St. Juliana Parish has NPA approval for church, \$300,000.

WEST PALM BEACH—Corps of Engineers, Jacksonville, let contract to Trieste Construction Co., Inc., 144 N. Federal Highway, Delray Beach, at \$115,322, for building rehabilitation—Phase 2—Priority 1—Section A, Palm Beach International Airport.

WEST PALM BEACH—Corps of Engineers, Jacksonville, received low bid from Collier A. Clark, 5710 N.E. 2nd Ave., Miami, at \$114,555, for building rehabilitation—Phase 2—Priority 1—Section A, Palm Beach International Airport.

WEST PALM BEACH—Corps of Engineers, Jacksonville, received apparent low bid of \$111,900 from Paul & Son, 921 Ortega Road, for rehabilitation of 11 buildings—Phase 2—Priority 2, Palm Beach International Airport.

WEST PALM BEACH—Corps of Engineers, Jacksonville, let contract to Belcher Oil Co., 1217 Biscayne Blvd., Miami, at \$323,738, for airfield paving and drainage, West Palm Beach International Airport.

GEORGIA

ALBANY—Navy Dept., Charleston, S. C., let contract jointly to Thompson & Street, Charlotte, N. C., Grannis & Sloan, Inc., 1110½ Hay St., Fayetteville, N. C., and Ralph Wattinger, Richmond, Va., at \$10,388,000, for warehouses and site grading, Marine Corps Supply Depot.

ASHBURN—Housing Authority received low bid of \$405,000 from Leo T. Barber Construction Co., Moultrie, Ga., for housing project.

BRUNSWICK—Board of Education let contract at \$136,840 to Shafter Construction Co., Box 87, Hinesville, for addition to elementary school.

CAMP STEWART—Corps of Engineers, Savannah, let contract to Shafter Construction Co., Box 87, Hinesville, at \$139,523, for final rehabilitation.

CARTERSVILLE—Housing Authority let contract to Strother-Barge Co., 189 Cain St., Atlanta, at \$743,743, for low-rent housing project.

COLUMBUS—First Presbyterian Church has NPA approval for church, \$226,000.

FITZGERALD—Housing Authority received low bid of \$349,900 from W. M. Crawford, Columbus, Ga., for housing project.

HUNTER FIELD—Corps of Engineers, Savannah, let contract to Cleveland Electric Co., Jacksonville, Fla., at \$139,094, for electrical distribution and sub-station, Hunter Air Base.

MACON—Vineville Baptist Church Congregation let contract to A. K. Abel, 1339 Blackmon Ave., at \$181,189, for church building.

MARIETTA—Board of Education let contract to Smith & Jones, 436 W. Peachtree St., Atlanta, for addition to high school.

(Continued on page 26)

Construction Passes Two-Thirds Mark on Missouri State Building



Above—Model of the \$6,000,000 Missouri State Office Building now under construction at Jefferson City. Designed by Marcell Boulicault, of St. Louis, the building will be fourteen stories high. MacDonald Construction Co., also of St. Louis, is contractor for the structure which will have a reinforced concrete frame with insulated aluminum wall panels.

Construction on Missouri's new \$6,000,000 State Office Building is now approaching the two-thirds mark, with occupancy scheduled about July 1.

Being erected at Jefferson City, the 200-foot square building will be fourteen stories high. Its first floor and the basement cover the entire area. From the second floor up, the project consists of a shaft thirteen stories, approximately 208 by 27 feet.

The entire building from the first to the thirteenth floors is designed for office purposes for the many Missouri state government departments which are now housed in a multitude of rented buildings scattered around the city.

The basement is 19 feet high and can be converted into an additional floor of future storage space. A system of meeting rooms is located on the fourteenth floor. These can be developed into small meeting rooms or one large assembly room, as the occasion requires. A promenade deck off these rooms overlooks the State Capitol grounds and the Missouri River.

Designs for the structure were made by Marcell Boulicault, prominent St. Louis architect, who describes its style as contemporary modern, in complete harmony with the adjacent state buildings on the Capitol grounds.

"It is functionally planned," he states, "to meet all modern demands of efficiency for office space," attaining the greatest economy and maximum usage of floor areas with natural lighting. Construction is completely fireproof.

The structural frame is of reinforced concrete, flat slab construction, supported on 118 piers, extending in places 76 feet deep to solid rock.

A feature of the building is the exterior

wall facing, which is to be insulated aluminum panels approximately four inches thick, so constructed as to provide both heating and air-cooling units on the interior face of the exterior wall, the entire building facing being of aluminum, including the windows.

The entire interior will have acoustical ceilings, and movable metal partitions for easy, flexible, partition rearrangements, as necessity dictates, and the building is so planned as to eliminate costly maintenance.

An unusual design feature is the manner in which the building has been placed. Because of excessive grades and the desirability of natural lighting, the shaft has been placed on an angle to obtain all the advantages of natural light, solar control, and vision of the Capitol Mall. This design feature further expresses the importance of the structure as a part of the Capitol Mall.

The building contains approximately 160,000 square feet of office space and 35,000 square feet of basement storage space, which can be supplemented by an additional 35,000 square feet of storage space, and the entire building throughout will be air-conditioned.

The building was authorized by the Legislature, and is being erected under the direction of the Board of Public Buildings, consisting of Governor Forrest Smith, Lt. Governor James T. Blair, Jr., Attorney-General J. E. Taylor, and Mr. Ralph McSweeney, Director of Public Buildings.

The structure is being designed under the direction of the office of Marcell Boulicault, architects and engineers, of St. Louis and Jefferson City, Mo. Contractor is the McDonald Construction Co., of St. Louis.

Puts a River in its Place

THE BIG RED CHAMP BUILDS UP THE WALL. The International TD-24 is the work champ of the levee and of the world. It's the most powerful crawler tractor made, and the fastest. Also a champ for "handle-ability," with fingertip control for pivot turns, feathered turns, and turns with power on both tracks. All this means it moves more paydirt per day.



Four International crawlers help build wall to save town and mines from Ohio floods

Three times in five years the Ohio River ram-
paged through Rosiclare, Illinois. Each time
it flooded the great fluorspar mines there, the
biggest in the world, America's most important
source of this vital fluxing agent used in mak-
ing steel.

J. D. Barter Construction Co. was given the
job of taming the river with a \$360,000 flood
wall. Four out of the five crawler tractors he
put on the project are Internationals, and Sam
Barter tells why:

"They really do a job, that's why! And they

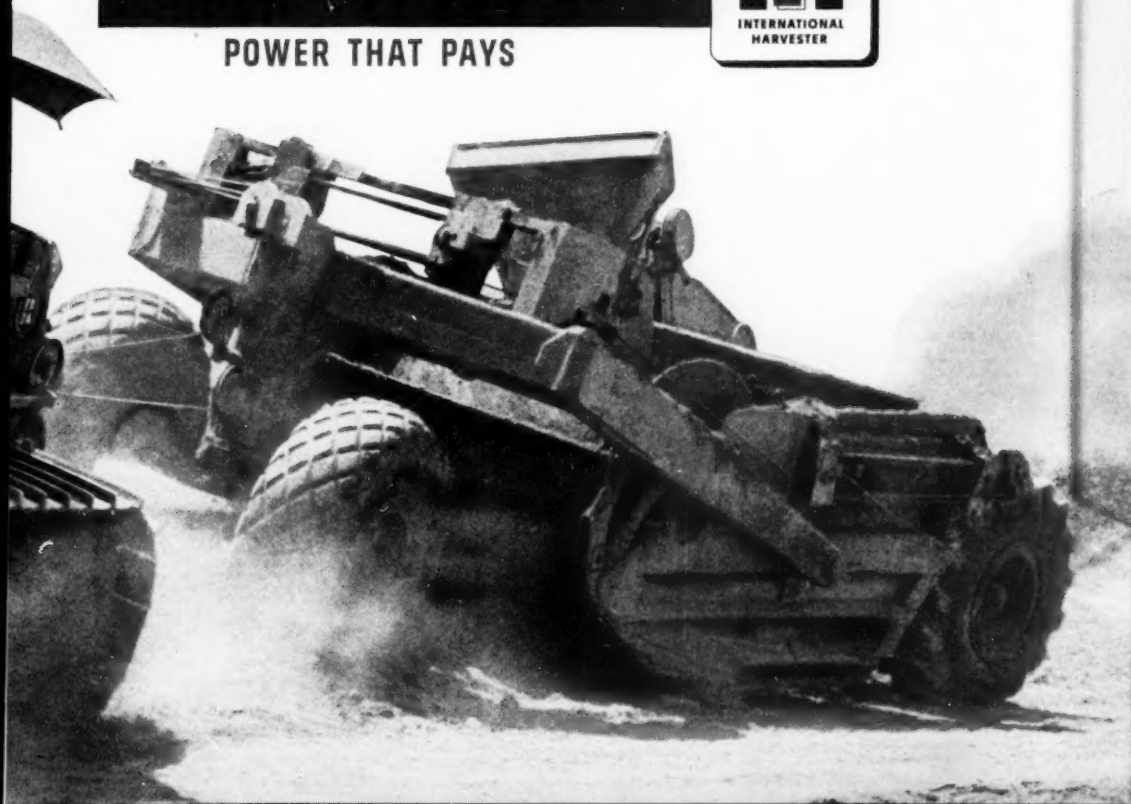
can take it as well as dish it out. We have one
TD-18 with 3,000 hours that's never been
touched. A TD-24 with 1,500 hours and not
one minute's downtime."

Check with your own friends who own Inter-
national crawlers. And ask your nearest Inter-
national Industrial Distributor for details on
the whole International line. He's always at
your call with expert service both in his shop
and at your job site. Get the low-down. You'll
go International from then on in!

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILL.

INTERNATIONAL

POWER THAT PAYS



Southern Construction Projects

(Typical and Important Reports Excerpted from Daily Construction Bulletin)

GEORGIA

(Continued from page 23)

MOULTREE—First Baptist Church plans auditorium and Sunday school building, \$50,000.

MOULTREE—Housing Authority received low bid of \$849,000 from Jack Culpepper Co., Tallahassee, Fla., for housing project.

NEWAN—Housing Authority let contract to Strother Barge Co., 189 Cain St., N.E., at \$664,644, for low-rent housing project.

ROCKMART—City received low bid from A. C. Sanford, Inc., Albany, at \$254,925, for Rockmart Aragon Hospital.

ROSSVILLE—Board of Education received low bid of \$445,000 from Collins & Hobbs, Chattanooga, Tenn., for high school.

SYLVESTER—Housing Authority let contract to E. A. Scott & Sons, Americus, Ga., at \$383,320, for housing project.

TOCOGA—Housing Authority received low bid of \$638,000 from A. B. Newton, Vidalia, Ga., for housing projects.

KENTUCKY

ASHLAND—Corps of Engineers, Huntington District, Huntington, W. Va., will receive bids March 13 for local protection project, CTV Eng. 46-022-52-50, pump stations site, on left descending bank of Ohio River.

FORT CAMPBELL—Corps of Engineers, Louisville, received low bid from J. W. Bateson, Irwin-Keaster Bldg., Dallas, Tex., at \$22,840,077, for permanent troop housing and facilities.

FRANKFORT—State Highway Department plans major construction projects for 1952 estimated to cost \$8,501,500.

LOUISVILLE—Louisville Gas & Electric Co. plans \$16,000,000 for expansion, \$6,300,000 will complete 6th unit of 65,000 kilowatts at Paddy's Run Station and \$10,000,000 for first 100,000 kilowatt unit at Cane Run plant.

MAYSVILLE—Corps of Engineers, Huntington District, Huntington, W. Va., will receive bids February 28 for local protection project, along left descending bank of Ohio River.

RICHMOND—Corps of Engineers, Louisville, will receive bids about February 20, tentative date, for additional ammunition storage facilities, Blue Grass Ordnance Depot, ENG-15-029-52-44.

LOUISIANA

ALEXANDRIA—Corps of Engineers, Little Rock, Ark., will receive bids on or about March 4 for motor vehicle repair shop.

ALEXANDRIA—U. S. Engineer Office, Little Rock, received low bid from W. A. Gray Construction Co., O. Box 626, Shreveport, on Lot 1 at \$190,000 (general warehouse) and from R. J. Jones & Sons, P. O. Box 991, Alexandria, Lot 2 at \$31,840 (A. I. O. Warehouse), Alexandria Air Force Base; Inv. 52-21.

BASTROP—Morehouse Parish approved \$1,600,000 bond issue for school construction.

CULLEN—Oscar Wilson plans theatre, \$100,000.

DONALDSONVILLE—Ascension Parish School Board let contract at \$215,795 to Pittman Construction Co., New Orleans, for new Lowery high school.

EAST JEFFERSON—East Jefferson Waterworks District No. 1, 3600 Jefferson Highway, let contracts for waterworks extensions and improvements. Contract 5, Kelley-Geneser Construction Co., New Orleans, at \$74,472; Contract No. 6, Farnsworth & Chambers Construction Co., Houston, Tex., at \$302,808, and Contract No. 7, Kelley-Geneser Construction Co., New Orleans, \$187,988.

FEINCE—Board of Commissioners of Hospital Service District No. 1 of St. Landry Parish vote February 27 on \$250,000 hospital bond issue.

GRAMBLING—State Board of Education, Baton Rouge, let contract at \$532,626 to Randle Terral, Farmville, for new physical education and classroom building at Grambling College.

GRAND COTEAU—City approved \$134,000 bond issue for waterworks and natural gas system.

HANNA—Corps of Engineers let contract to Hough-Cowger & Co., Inc., 320 N. Fourth St., St. Louis, Mo., at \$194,953, for pile dike, Red River Parish.

LAKE CHARLES—Corps of Engineers, Galveston, Tex., let contract to Bergstrom & Yates, Marshall, Tex., at \$335,720, for base supply warehouse, Lake Charles Air Base.

NEW ORLEANS—Tulane University plans

addition to Hutchinson Memorial building of medical school, \$520,368.

NEW ORLEANS—Orleans Parish School Board let contract at \$285,443 to Union Construction Co., Inc., 2634 Almonaster Ave., for St. Louis the Great Parochial School.

NEW ORLEANS—City Council let contract to Boh Bros. Construction Co., 2400 Cypress St., at \$662,132, for Gentilly-Boulevard-New Orleans Terminal Co. Underpass.

NEW ORLEANS—Corps of Engineers received low bid of \$168,456 from J. B. Talley & Co., St. Martinville, La., for approx. 166,600 cu. yds. of earthwork on East Atchafalaya Basin protection levees.

NEW ORLEANS—Dock Board, Leon Irwin, Jr., Pres., received low bid on entire project from Feigles Construction Co., Inc., 711 Wesley Temple Bldg., Minneapolis, Minn., at \$646,000, for public grain elevator.

NEW ORLEANS—Board of Levee Commissioners received low bid of \$540,754 from Boh Bros. Construction Co., 2400 Cypress St., at \$540,754, for 18,900 lin. ft. of streets in Lakeshore subdivision.

PINEVILLE—State Colony & Training School let contract to James A. Elland, Jr., Inc., Bunkie, for new school building, \$400,000.

PLAQUEMINES PARISH—Corps of Engineers let contract to T. L. James & Co., Inc., P. O. Drawer 8, Kenner, La., at \$127,803, for 783 mi. of concrete highway in Plaquemines Parish.

SHREVEPORT—Southern Bell Telephone Co. plans dial telephone building, \$500,000.

SHREVEPORT—City Council received low bid of \$86,713 from R. P. Farnsworth & Co., Inc., P. O. Box 1121, for additions to Cross Lake Water Plant.

MARYLAND

Rep. George H. Fallon announced allocation of \$240,547 in Federal aid to Baltimore-Washington expressway construction.

ABERDEEN—Corps of Engineers, Baltimore, to advertise for bids about April 1 for redesign of improvements to Station Hospital, \$500,000.

ABERDEEN—Corps of Engineers, Baltimore, to advertise for bids about March 15 for additions to fire control building, \$500,000 to \$1,000,000.

Tulsa Firm Receives \$3,000,000 Award

T. M. Lumly, president of Refinery Engineering Co., Tulsa, announces that his firm has completed negotiations with the El Dorado Refining Co., El Dorado, Kansas, for construction work totalling approximately three million dollars.

Refinery Engineering Company's contract with Elreco calls for the construction of a catalytic cracking unit, a gas concentration plant for complete gas recovery and a revamp of the present polymerization plant to handle the increased charge stock made available by operation of the new "cat cracker."

The new plant will be able to handle cracking stock from 10,000 barrels of crude oil per day, and is designed to increase operations to 15,000 barrels daily if desired. Elreco's present capacity is 2,000 barrels daily.

When work by Refinery Engineering Company is completed, Elreco's consumption of both water and electricity will be doubled. As soon as the "cat cracker" is in operation, the Company will begin manufacturing motor fuels of high octane rating, as well as distillate fuels. The present Thermal Cracking Unit will be maintained intact as a stand-by and to control production of middle distillates as the market demands.

ABERDEEN—Corps of Engineers, Baltimore, received low bid from Kahn Engineering Co., 127 O. St., S.W., Washington, D. C., at \$388,179, for field office surveillance office and shop.

ABERDEEN—Corps of Engineers, Baltimore, to advertise for bids about April 1 for radiation application laboratory, \$100,000 to \$500,000.

ABERDEEN—Corps of Engineers, Baltimore, to advertise for bids about March 15 for laboratory and engineering building, \$500,000 to \$1,000,000.

ANDREWS FIELD—Corps of Engineers, Washington, D. C., received low bid from H. R. Miller Co., Lancaster, Pa., at \$720,556, base bid 1, and at \$630,676 on 2, for readiness apron and connecting taxiways.

ANNAPOLIS—Catholic Francis Xavier Fathers, R.F.D. 2, received low bid of \$374,500, from James J. Stehle & Son, Annapolis, Md., for St. Conrad's Priory.

BALTIMORE—City Planning Commission recommended expenditures of \$11,012,000 for sewers.

BALTIMORE—City Planning Commission recommended expenditures of \$30,453,500 for public school system.

BALTIMORE—City Planning Commission recommended the expenditure of approximately \$7,900,000 for welfare and city hospitals.

BALTIMORE—City Planning Commission, Thomas F. Hubbard, Chmn., included in its proposed \$149,800,000 general improvement program for the next several years.

BALTIMORE—State, Nathan L. Smith, Chief Engr., plans calling for bids sometime in February for new hospital-prison for criminals, \$2,500,000.

BALTIMORE—Advisory Council on Highway Construction to State Roads Commission recommends expenditure of \$450,000,000 for Maryland roads over period of 15 years.

BALTIMORE—City Council considering bills calling for the allocation of \$1,857,500 for reconstruction of the Home for the Aged and Infirm at Baltimore City Hospital.

BALTIMORE—Board of Estimates let contract to Columbia Construction Co., 1301 Towson St., at \$492,985, for sanitary sewers.

BALTIMORE—Board of Estimates let contract to J. H. Williams & Co., Inc., 1122 Cathedral St., at \$218,000, for new Cross St. Market.

BALTIMORE—Fire Board discussing plans for firelighting training school in Herring Run Park near Pulaski Highway, \$350,000.

BALTIMORE—Corps of Engineers to advertise for bids about February 28 for design of CIC school building, Fort Holabird; \$1,000,000 to \$3,000,000.

BALTIMORE COUNTY—Ralph W. Simmers, Jr., 6313 Kenwood Ave., will construct 220 dwellings at \$2,310,000.

BALTIMORE COUNTY—Littledale Constr. Co., 3415 Abble Place, will construct 32 dwellings at \$352,000, Glen Rd., Glen Rd.

BALTIMORE COUNTY—Northbrook Bldg. Co., Leonard Sulman, Pres., 5 Guilford Avenue, will construct 165 dwellings at \$1,278,750, Eastdale Rd., Baltimore St., Wynbrook Rd., Gough St.

BALTIMORE COUNTY—James Keely Co., 4200 Edmondson Ave., Baltimore, will construct 100 dwellings at \$800,000, Glen Rd., Glen Rd.

BALTIMORE COUNTY—Dundalk Building Co. will construct 115 dwellings.

CHESAPEAKE BEACH—Calvert County Board of Education let contract at \$235,500 to James J. Stehle, Annapolis, for Chesapeake Beach Elementary School.

EDGEWOOD—Corps of Engineers, Baltimore, to advertise for bids about February 25 for steam distribution system, \$100,000 to \$500,000.

EDGEWOOD ARSENAL—Corps of Engineers, Baltimore, received low bid from Pierce Construction Co., 2552 Woodbrook Ave., Baltimore, at \$616,589, for fire bomb clusters.

HAGERSTOWN—Governor Theodore R. McKeldin plans asking General Assembly for a \$3,000,000 bond issue to construct a new chronic-disease hospital.

HARFORD COUNTY—Federal Housing Administration plans 455 defense housing units in Aberdeen-Edgewood area.

MIDDLE RIVER—Navy Dept., Public Works Office, let contract to Central Automatic Sprinkler Co., Lansdale, Pa., at \$126,944, for entire sprinkler system for 2-story 500 M sq. ft. addition to Government owned plant.

MIDDLE RIVER—Navy Dept., Public Works Office, let contract to George A. Fuller Co., 2206 N. Charles St., Baltimore, at

\$699,000 for substructure, grading and outside utilities.

MONTGOMERY COUNTY—Montgomery County Board of Education received low bid of \$293,400 from H. O. McAllister Co., 409 Butternut St., Washington, D. C., for Hillandale and Brookmont Elementary Schools.

OWINGS MILLS—Maryland Department of Public Improvements, Baltimore, received low bid from Enterprise Electric Co., Inc., Baltimore, at \$70,500 Base Bid A, at \$35,000 for Bid B; at \$131,000 Base Bid C, and at \$25,000 for Base Bid D, for electric distribution system, Rosewood State Training School.

PATUXENT RIVER—Navy Department, Public Works Office, let contract to Ayers-Hagan-Booth, 35 Westminster St., Providence, R. I., at \$1,096,000, for hydraulic catapult.

PLINEY POINT—St. Mary's County Board of Education received low bid of \$267,000 from Joseph F. Nebel, Washington, D. C., for Pliney Point Elementary School.

REISTERSTOWN—Department of Public Improvements, Baltimore, let contract at \$120,899 to Charles J. Spielman Co., Baltimore, for sewage treatment plant at Montrose School for Girls.

SYKESVILLE—Department of "Public Improvements, Baltimore, let contract to John R. Crocker Co., Baltimore, at \$125,493, for boilers and stokers, Springfield State Hospital.

TOWSON—Department of Public Improvements, Baltimore, let contract to W. E. Bickerton Construction Co., Inc., 101 W. 22nd St., Baltimore, at \$185,925, for additions and alterations to Towson Armory.

TOWSON—Baltimore County announced plans for 1952 include \$1,055,000 program of construction of highways and bridges.

UPPER MARLBORO—Prince Georges County sold \$5,000,000 bond issue to J. Alex Brown & Sons, Baltimore, and Harriman Ripley & Co., New York, for school construction.

MISSISSIPPI

ACKERMAN—Board of Supervisors of Choctaw County let contract to Smith & Whitaker, Tupelo, at \$226,000, for new Choctaw County Community Hospital.

BILOXI—Keesler Air Force Officers' Club selected architects for remodeling and rehabilitation of mess facilities, \$200,000.

BILOXI—Corps of Engineers, Mobile, Ala., will receive bids on or about February 28 for maintenance docks, Keesler Air Base.

COLUMBUS—Columbus Separate School District let contract at \$515,124 to D. S. McClanahan & Son for high school.

GREENVILLE—City Council let contract to James F. O'Ballore, 1501 S. Rondon St., New Orleans, La., at \$1,221,500, for mechanical system for Greenville Mills, Inc.

GREENVILLE—Greenville Public Schools plans high school, \$1,000,000.

HATTIESBURG—First Baptist Church Congregation has N.P.A. approval for building, \$502,628.

HOLLY SPRINGS—N. W. Overstreet & Associates, Jackson, has plans and specifications for school facilities in \$450,000 program.

INDIANOLA—Indianola Municipal Separate School District let contract at \$196,200 to Currie & Corley, Raleigh, for colored elementary school.

INDIANOLA—South Sunflower County Special School District for Colored received low bid of \$254,285 from J. E. Staub & Co., Fulton, for new high school.

INDIANOLA—Ludlow Manufacturing and Sales Co. plans new plant, \$700,000.

JACKSON—Memorial Hospital Foundation let contract to Flint Brothers Construction Co., Jackson, at \$1,194,400, for St. Dominic Hospital; Fox & Co. Electric Co., Jackson, for electrical work at \$182,892.

MERIDIAN—City Council will receive bids February 21 for factory building for Texttron Mississippi, Inc., \$6,540,000.

OXFORD—N. W. Overstreet & Associates, Architects-Engineers, 201 N. Lamar St., Jackson, has plans and specifications for new school addition, \$350,000.

PONTOTOC—Pontotoc County let contract to M. T. Reed Construction Co., P. O. Box 1066, Jackson, at \$303,233, for 30-bed Pontotoc Community Hospital.

SENATOBIA—Town approved a \$375,000 bond issue for plant for Mylan Manufacturing Co.

SPRINGSBURG—Spencer Chemical Co., Pittsburg, Kans., let contract to Foster Wheeler Corp. for gas process section of new \$14,000,000 chemical plant for which Quaker Valley Constructors, Inc., Pittsburg, Kans., has general contract.

MISSOURI

CHILLICOTHE—Board of Education let contract at \$192,282 to Irvinsbilt Co., Box 573,

"Engineer Week in Baltimore" Proclaimed by Mayor D'Alesandro



Above—Officers of the Maryland Society of Professional Engineers listen as Richard A. Lidinsky, acting for Mayor Thomas D'Alesandro, who is recuperating from illness, read the proclamation declaring the week of February 17 through 23 "Engineers' Week in Baltimore." Left to right in the picture are Louis G. Smith, vice president; Mr. Lidinsky; Owen W. Turpin, national director; James J. O'Donnell, president, and Manus E. McGeady, vice president. One of the features of the week will be a television presentation over local broadcasting station WMAR.

for Dewey Elementary School.

CHILLICOTHE—Farmers' Electric Cooperative has REA approval of \$1,535,000 loan.

INDEPENDENCE—City received low bid from Koch Construction Co., 418½ Main St., Joplin, on 3 sewer main extensions, and Freer Construction Co., 2838 E. 16th, Joplin, on 2 sewer main extensions.

KANSAS CITY—John Deere Plow Co. plans office and warehouse, \$1,500,000.

KANSAS CITY—Board of Public Works, Reed McKinley, Director, 20th Floor, City Hall, let contract at \$202,951 to Torsion Construction Co., 1890 Woodsworth Road, for relief sewer Flora Ave.

MEXICO—Consolidated Electric Cooperative has REA approval for \$253,000 loan for 96 miles of distribution line.

NECK CITY—American Zinc, Lead & Smelting Co. and Brown & Root, Inc., Houston, jointly opening and will operate Quilex Seven zinc-lead mines near Neck City.

OWENSVILLE—Board of Education, Reor-

ganized School District No. R-2, Gasconade County, Leslie E. Spurgeon, Supt., let contract at \$29,569 from Roy Scheperle Construction Co., Jefferson City, for high school.

PERRY COUNTY—Corps of Engineers, St. Louis District, 1104 Market St., St. Louis, received low bid of \$193,750 from Missouri Dredging Co., St. Louis, for levee work.

RICHMOND—City approved \$250,000 bond issue for water treatment plant and system improvements.

RIDGEWAY—Board of Education let contract at \$169,311 to Scott-Mastin Construction Co., 1729 Swift Ave., North Kansas City, for elementary and high school.

ST. LOUIS—Corps of Engineers, Kansas City, selected Associated Architects and Engineers, 1313 International Bldg., 722 Chestnut St., St. Louis, for Military Personnel Records Center.

ST. LOUIS—West Walnut Manor School District, Board of Education, Milton W. Blier-

(Continued on page 28)

Board Completed for Engineer Centennial

Completion of the 37-man board of directors who will head the Centennial of Engineering celebration to be held in Chicago during this year is announced by Lenox R. Lohr, its president.

The Centennial, which is being sponsored by 41 national and international groups that include in their membership the great majority of the engineering profession in the United States, will mark the 100th anniversary of the establishment of engineering as a recognized civilian profession in this country.

Prior to 1852, when the American Society of Civil Engineers was founded, practically all important engineering work on this side of the Atlantic was conducted by military engineers.

Filling of the last vacancies on the Centennial's board was consummated with acceptances of their election by David Sarnoff, chairman of the Radio Corporation of America; James M. Todd of James M. Todd Associates, of New Orleans, and past president of the American Society of Mechanical Engineers;

and Gano Dunn, president of the J. G. White Engineering Corp., of New York.

Other prominent members of the board include Herbert Hoover, former president of the United States; Charles F. Kettering, General Motors research consultant; Benjamin F. Fairless, president of the U. S. Steel Corp., and Dr. Robert E. Wilson, chairman of the Standard Oil Company of Indiana.

Officers of the Centennial in addition to Mr. Lohr, are Carlton S. Proctor of New York and president of the American Society of Civil Engineers, vice president; Titus G. LeClair, Commonwealth Edison Co., Chicago, and past president of the American Institute of Electrical Engineers, treasurer; and Charles F. Kettering, executive committee chairman.

Frank W. Edwards, on loan from Illinois Institute of Technology where he heads the department of civil engineering, is general manager of the Centennial; while E. L. Chandler, ASCE staff executive is secretary of the convocation committee.

Southern Construction Projects

(Typical and Important Reports Excerpted from Daily Construction Bulletin)

MISSOURI

(Continued from page 27)

ST. LOUIS—Board of Education, 911 Locust St., let contract at \$108,979 to Francis H. Preuss, 1234 Hamilton Ave., for Fairview Elementary School.

ST. LOUIS—Board of Education, 911 Locust St., let contract at \$334,900 to George L. Cousins Contracting Co. for Busch School, 5910 Clifton Ave.

WARRENSBURG—Warrensburg School District plans new elementary school; \$225,000.

NORTH CAROLINA

ASHE COUNTY—Ashe County Board of Education received low bids for following schools: Blue Ridge School, at \$126,750; Cline Lumber Co. Hickory, Jefferson School, Multis & Brown, W. P. Jones, \$33,778; Lansing School, Little E. Construction Co., Charlotte, \$67,225; and Riverview School, Cline Lumber Co. Hickory, \$64,900.

ASHVILLE—Gerlikon Tool and Arms Corporation of America, Ltd. Gen. K. B. Wolfe (retired), Pres., selected SIS Associates, Inc., 1025 Hendersonville Road, as Archt.-Engrs., for multi-million-dollar plant near Asheville.

CAMP LEWIS—Navy Department, Public Works Office, received low bid from Grant E. Key, Inc., Lynchburg, Va., at \$198,763, for removal of old and installation of new equipment, Post Exchange.

CHARLOTTE—Board of School Commissioners received low bid of \$198,038 to A. H. Gulon & Co., Wilkinson Blvd., for Ashley Park School.

CHARLOTTE—School Board of Commissioners received low bid of \$223,440 from Harger Construction Co., Mooresville, for York Road School.

CHARLOTTE—Celanese Corporation of America let contract to C. M. Guest & Sons, P. O. Box 34, Greensboro, for office building.

CHERRY POINT—Craven County Board of Education, New Bern, let contract at \$269,800 to King-Hunter, Inc., Greensboro, for elementary school.

DREXEL—Drexel Foundation, Inc., let contract to P. S. West Construction Co., Statesville, N. C., at \$222,200, for community center and swimming pool.

FAYETTEVILLE—Housing Authority received low bid of \$1,214,000 from Crystal Lumber Co., Winston-Salem, N. C., for housing project.

GASTONIA—City received low bids for water and sewer extensions, Contract 4, P. White & Assoc., 104 Latta Arcade, Charlotte, at \$222,307, on mech. JT pipe, Contract No. 1, Glamorgan Pipe Co., at \$191,865.

LENOIR—Blue Ridge Electric Membership Co-operative has loan of \$1,770,000 from REA for 92 miles of transmission line and 53 miles of tie lines.

MONROVIE—Davie Electric Membership Corporation has REA approval of \$880,000 loan for 30 miles of distribution line.

MONROVIE—Union Electric Membership Corporation has REA approval of \$825,000 loan for 167 miles of distribution lines.

MOREHEAD CITY—Housing Authority let contract to Coggins Construction Co., Raleigh, at \$388,000 for housing project.

MORGANTON—North Carolina School for Deaf & Blind let contract at \$148,280 to Guy Price & Sons, Inc., for gymnasium.

RALEIGH—Board of Trustees of Raleigh City Administrative School Unit plans Ridge Road School.

RALEIGH—Public Service Company of North Carolina plans conditioning mains and other facilities to handle natural gas; received permission for \$9,000,000 loan.

RALEIGH—North Carolina State College let contract at \$244,826 to Wrenn-Wilson Construction Co., Durham, for nuclear reactor building.

RANDOLPH COUNTY—Board of Education let contract at \$143,156 to King-Hunter, Inc., 910 E. Market, Greensboro, for Randleman high school.

ROWAN COUNTY—Board of Commissioners let contract to Wagoner Construction Co., 1311 Blair St., Salisbury, at \$182,400, for Health Center and Agricultural Building.

SANFORD—City plans library building at Sanford Senior High School.

SANFORD—Lee County Hospital Board of Trustees let contract to Little Construction Co., 703 Builders Bldg., Charlotte, at \$219,788, for additions to alterations to hospital.

VANCE COUNTY—Corps of Engineers let contract to Ballenger Paving Co., Greenville, S. C., at \$250,852, for relocation of North

Carolina secondary highway, Buggs Island Reservoir.

WARE COUNTY—Wake County Board of Education let contract at combination bid of \$226,910 to Clancy Construction Co., Raleigh, for addition to 3 schools.

WILMINGTON—Housing Authority let contract to H. L. Coble Construction Co., Greensboro, at \$897,750, for 150-unit housing project.

WINSTON-SALEM—First Baptist Church Congregation received low bid of \$174,400 from West Bldg. Co., Winston-Salem, N. C., for educational building.

WINSTON-SALEM—Housing Authority plans Kimberly Park Terrace, NC 12-5.

OKLAHOMA

ALTUS—Corps of Engineers, Tulsa, will receive bids March 3 for reinforcing existing runways; improvements and lighting system. Altus Municipal Airport, receive bids April 23 for additional fuel storage facilities; advertise for bids in April and May for new buildings.

BUCAN—Sunray Oil Corp. let contract with Refinery Engineering Co., Tulsa, for hydrofluoric acid alkylation unit for overall revamping program, \$1,700,000.

FORT SILL—Community Facilities Service let contract at \$167,040 to Secor Building Co., Oklahoma City, Okla., for elementary school.

FORT SILL—Corps of Engineers, Tulsa, has preliminary plans in progress for academic building at Fort Sill School.

OKLAHOMA CITY—Pittsburgh Plate Glass plans warehouse, \$300,000.

PONCA CITY—Continental Oil Co. plans expansion of Ponca City refinery, \$7,300,000.

TULSA—City hangar to accommodate DC-6; \$160,000.

TULSA—Douglas Aircraft Co. received low bid from Farnsworth & Chambers Co., Inc.,

for hangar.

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Houston, Tex., at \$6,926,483, for N-S runway to accommodate B-47 Stratojet bombers, also relocate present runway lights.

TULSA—Tulsa Independent School District No. 1 received low bid of \$521,893 from S. R. Smith Co. for Eisenhower Elementary School.

SOUTH CAROLINA

AIKEN—School District No. 1, Housing & Home Finance Agency, let contract for temporary school, project SC 52-C-207; Unit B, Dawson Engineering Co., Charleston, at \$287,737; Unit C, Carter-Miot Construction Co., Columbia, \$229,540; and Unit D, Spong Construction Co., Columbia, \$31,445.

AIKEN—Talitha-Hawthorne School District No. 1 Housing & Home Finance Agency, let contract at \$225,200 to Southern States Construction Co., Columbia, for Project SC 52-C-207, Unit A—temporary school.

ANDERSON—M. Lowenstein & Sons, Inc., New York, N. Y., announced plans for a \$2,500,000 mill for manufacture of synthetic grey goods.

BATH—Aiken County School District No. 4 received low bid of \$572,650 from Spong Construction Co., Columbia, for Langley-Bath-Clearwater high school.

BEAUFORT—Women's American Home Mission Society let contract to Russon Construction Co., Charleston, S. C., at \$212,999 for reconstruction of Coleman Hall, Mather School.

BEECH ISLAND—South Carolina Generating Co., Columbia, S. C., received low bid of \$1,386,902 from Standard Construction Co. of Ga., for steam electric generating station.

CAYCE—Brookland-Cayce School District No. 2, Lexington, S. C., let contract at \$149,844 to H. L. Eargle Construction Co., Columbia, for Cayce Elementary School.

CHARLESTON—Navy Department received apparent low bid from Salmons Dredging Co., Charleston, at \$399,000 on Item 1 and at \$197,680 on Item 2, for mooring facilities.

COLUMBIA—Board of School Commissioners let contract to George R. Price, for addition to Brennen Elementary School.

FORT JACKSON—Corps of Engineers, Charleston, received low bid from Cecil's, Inc., Spartanburg, at \$262,723 for classrooms and latrines.

GEORGETOWN—Board of Education let contract at \$138,372 to William Thomson, for school.

GREENVILLE—U. S. Engineer Office, Charleston received low bid from McKoy-Helgeson, Box 57, Greenville, at \$756,108 for airman's barracks, Donaldson Air Base.

JACKSON—School District No. 2, Housing & Home Finance Agency, Aiken, let contract at \$215,457, to Dawson Engineering Co., 10 Gillon, Charleston, for Project SC-52-C-206.

LAURENS—Piedmont Telephone Cooperative, Inc., received low bid of \$302,099 from Irby Construction Co., Jackson, Miss., for approximately 325 miles rural telephone lines.

NORTH AUGUSTA—School District No. 6, Housing & Home Finance Agency, Aiken, let contract for temporary school, Unit A, Harner Builders Supply, \$190,317.

SUMTER—Corps of Engineers, Charleston, let contract to Avery Lumber Co., Sumter, at \$133,161 for supply administration and office building and alterations and additions to warehouses, Shaw Air Base; Inv. 13.

SUMTER—Corps of Engineers, Charleston, let contract to Avery Lumber Co., Sumter, at \$133,161, for alarm service club and supply administration and office building, Shaw Air Base.

SUMTER—Black River Electric Cooperative has REA loan of \$450,000 for 100 miles of distribution lines.

WILMINGTON—School District 29, Housing & Home Finance Agency, Aiken, let contract for temporary school, project SC-52-C-203, Unit A, Dawson Engineering Co., 10 Gillon, Charleston, at \$204,328 and Unit B at \$127,223.

TENNESSEE

Proposed T.V.A. program involves \$367,011,000 program in year beginning July 1, 1952.

ALCOA—Aluminum Company of America plans \$335,000 expansion.

BRISTOL—Navy Department let contract to Bristol Steel & Iron Works, Bristol, at \$207,722 for structural steel fabricated and erected for main factory building.

CHATTANOOGA—City Water Co. plans laying of new 24-inch main, \$200,000.

CHATTANOOGA—Y.M.C.A. plans \$300,000 (Continued on page 38)

Missouri Factory Branch Planned by Allis-Chalmers

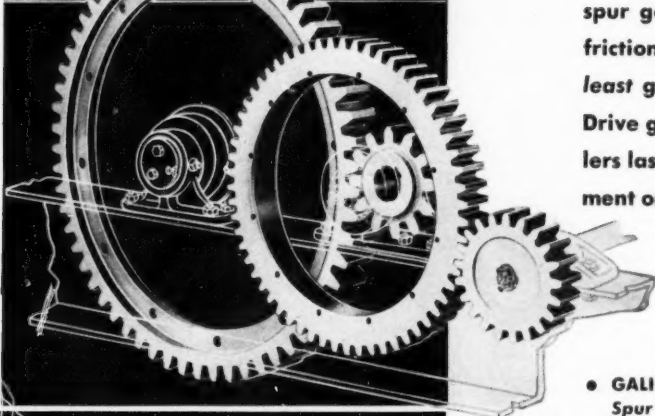
Twelve acres of land located at Knowland Road and 35th Street, Independence, Mo., have been purchased by the Tractor Division of Allis-Chalmers Manufacturing Co., which plans immediate construction of a new and modern factory branch to serve agricultural and industrial dealers in eastern Kansas and western Missouri.

According to Willis G. School, vice-president and general sales manager of the tractor division, the facilities will replace the Kansas City branch located at 1224 West 12th Street since 1931.

Serving more than 125 industrial and agricultural dealers, the new branch will be a modern one-story building. It will be complete with conveyor systems, loading platforms, and railroad docks. The most modern methods and equipment will be employed to expedite customer needs for machinery and repairs.

The spacious building and vast storage area is expected to handle a large inventory of harvesting equipment, wheel and crawler tractors, implements, motor graders, power units, and a complete stock of repair parts and accessories for these Allis-Chalmers products.

Mr. School stated that the new factory branch is being built to keep pace with the Tractor Division's rapidly growing business in this area. "It's construction," he said, "is a sign of Allis-Chalmers faith in the development of the industrial and agricultural markets in Kansas and Missouri."



REMEMBER!
ROLLER RELIABILITY—
 depends largely on its
FINAL DRIVE mechanism.



IF YOU KNOW GEARS

— you know that gradual reduction and low speeds (each gear with roller bearings) plus a straight-line spur gear train, develop the *least* friction and consequently cause the *least* gear wear. That is why Final Drive gears on Galion Tandem Rollers last the longest without adjustment or replacement.

- GALION FINAL DRIVE GEARS are all Spur Gears.
- GALION FINAL DRIVE is a two step gear reduction train thru four spur gears — a straight line drive.
- GALION FINAL DRIVE greatest gear ratio is only 5 to 1.
- GALION FINAL DRIVE spur gears are special alloy steel, accurately machine cut and heat-treated. No ordinary, uncut, cast gears are used.
- GALION FINAL DRIVE has no small beveled pinion gear driving a large bevel ring gear on the roll.

Think of these advantages of the Galion Spur Gear Final Drive before you buy a tandem roller.

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Southern Construction Projects

(Typical and Important Reports Excerpted from Daily Construction Bulletin)

TENNESSEE

(Continued from page 28)

building for Negroes.
COLUMBIA—Magnolia Mining Co. plans underground mine, producing million tons yearly.

COLUMBIA—Shea Chemical Corp., let contract to W. P. Heinkeken, Inc., New York, N. Y., for rotary kiln and dryers for processing of phosphate products.

COWAN—Parke, Davis & Co., Detroit, Mich., considering construction of \$20,000,000 plant in Cowan area.

MANCHESTER—General Hospital Commission soon call bids for hospital, \$1,000,000.
MEMPHIS—Memphis Light, Gas & Water Division let contract to Fred Young, Builder for substation #15.

NASHVILLE—Corps of Engineers, let contract jointly to J. A. Jones Construction Co., Charlotte, N. C., and Charles H. Tompkins Co., Washington, D. C., at \$9,164,998 for Old Hickory Lock and Dam.

NASHVILLE—Davidson County Hospital & Home let contract to Harmon Construction Co., Box 1414, Oklahoma City, Okla., at \$1,216,618 for hospital.

SELMER—Pickwick Electric Membership Corporation has R.E.A. approval of \$325,000 loan for 50 miles distribution line.

TULLAHOMA—First Methodist Church Congregation plans \$100,000 expansion and remodeling program.

TEXAS

Lone Star Gas Co. plans expenditures totaling \$31,000,000 for 1952 budget for enlargement and improvement.

AUSTIN—Seton Hospital, Sister M. Basil, Superior and Administrator, announced plans for addition and other improvements, \$300,000.

BEAUMONT—Beaumont Independent School District plans French High School, \$650,000.

BEAUMONT—E. I. duPont de Nemours and Co., Wilmington, Del., has acquired 562 acres on the Neches River for chemical plant, reported cost \$111,000,000.

BELLAIRE—Texas Company, Houston, let contract to Gulf Construction Co., Inc., P. O. Box 661, Houston, at approximately \$500,000, for research and producing laboratory.

BREHAM—Sisters of St. Francis (Sylvania, Ohio), plans hospital, \$600,000.
BRYAN—Bryan Board of Education plans school program; \$400,000 bond issue voted.

BRYAN—Sisters of St. Joseph's (Sylvania, Ohio), Brehman, soon call bids for three-story and basement hospital, \$200,000.

CORPUS CHRISTI—Nueces Community, George Prowse, Judge, let contract to Archie C. Fitzgerald, P. O. Box 101, Austin, at \$339,000 for Nueces County Tuberculosis Hospital, adjacent to Hilltop Sanitarium.

CORPUS CHRISTI—City plans city auditorium, \$1,400,000.

DALLAS—Luscombe Airplane Corp. plans \$450,000 building program to add 85,000 sq. ft. of floor space to permanent building area near Dallas.

DALLAS—Dallas County, W. L. Sterrett, Judge and City, Harold Shank, Sec., received low bid from Robert E. McKee, General Contractor, Inc., P. O. Drawer 2848, Dallas at \$7,749,000 for 12-story hospital & clinic.

ELLINGTON FIELD—Corps of Engineers, Galveston, will receive bids on or about February 26 for addition to operations building, Storm Station, Ellington Air Base.

EL PASO—Housing Authority received low bid of \$1,266,480 from Ponsford Bros., 914 E. Missouri, for housing project.

FORT WORTH—Corps of Engineers, Fort Worth, let contract to Glade Construction Co., 403 Century Bldg., Fort Worth at \$887,573 for classification and MHE shop, box shop concrete apron, Quartermaster Depot.

FORT WORTH—First National Bank has N.P.A. approval for bank building, \$5,700,000.

FREESPORT—Brazosport Independent School District, Texell W. Ogg, Supt., sold \$500,000 bond issue for additions to schools.

FREESPORT—Brazos River Harbor Navigation District plans harbor facilities, cost, \$2,000,000.

GRAND PRAIRIE—Grand Prairie Independent School District, H. H. Chambers, Supt., plans junior high school, \$488,000.

GREENVILLE—City, let contract to Nordberg Plumbing Co., 419 Cotton Exchange Bldg. for electric generating unit and auxiliaries, \$448,330.

GREGGTON—Greggton County Water Control & Improvement District, approved \$840,000 bond issue for water and sewer improvements.

HARLINGEN—Housing Authority plans housing project, \$1,125,000.

HOUSTON—City receive bids February 27 for water treatment plant for San Jacinto River Reservoir, \$4,000,000.

HOUSTON—Texas State Highway Commission, Austin, let contract to Baxter Construction Co., 2718 Cason St., at \$362,623 for warehouse and shop buildings, Eureka Junction at Washington Ave., Harris County.

HOUSTON—City let contract to San Jacinto Equipment Co., 1107 Girard and Elmer C. Gardner, Inc., 2704 Sachett, at \$629,765 for San Jacinto River Dam.

HOUSTON—Francis Investment Co., let contract to Robert E. Nesmith, Inc., 6738 Long Drive, at \$500,000 for office and plant.

HOUSTON—Board for State Hospitals & Special Schools, Austin, plans Psychiatric Hospital, \$2,500,000.

LAREDO—City of Laredo Waterworks System, Charles E. Richter, Jr., Chmn., let contract at \$1,317,003 to H. B. Zachry Co., P. O. Box 2570, San Antonio, for water pumping and filtration plant.

LONGVIEW—Longview Independent School District let contract at \$800,000 to J. A. Sharrock, & Sons, Marshall, for 4 elementary school buildings.

LONGVIEW—First National Bank plans building, \$2,000,000.

LEUBROCK—Krueger, Hutchinson & Overton, 1301 Broadway, has plans in progress for clinic building, 3601 Nineteenth St., \$700,000.

McKINNEY—McKinney School Board, has working drawings in progress for school program, \$600,000.

MINERAL WELLS—Corps of Engineers, Fort Worth, will receive bids about February 22, for three 500-man mess buildings, Wolter Base.

MINERAL WELLS—Corps of Engineers, Fort Worth, receive bids about March 14, for 50,000 gallon above ground Diesel storage tank, 12 washracks, 12 pumps and islands, 12 lubricating racks, eight 5,000 gallon tanks and supports, paving 4 POL areas, 1 group motor pool, Wolters Air Base.

ORANGE—City plans hospital, \$500,000.

ORANGE—Sulway Process Division of Allied Chemical & Dye Corp. announced formation of an Organic Section to develop and manufacture organic chemicals and related products; new plant will be constructed on 650-acre site.

POINT COMFORT—Aluminum Company of America plans 100 new homes, \$1,000,000.

SAN ANTONIO—Corps of Engineers, Galveston, let contract to United Enterprises, 2845 N. Roman St., New Orleans, La., at

\$567,000 for records and processing building, Lackland Air Base.

SAN ANTONIO—State of Texas, Board for Texas State Hospitals & Special Schools, Austin, let contract to H. B. Zachry Co., P. O. Box 2570, San Antonio at \$1,928,000 for receiving and treatment buildings for mental tuberculosis patients at State Hospital.

SAN ANTONIO—Housing Authority received low bid of \$2,890,088, from R. F. Ball Construction Co., 228 E. Martin St., for housing project, Casino Park.

SAN PATRICIO COUNTY—Reynolds Metals Co., has issued a letter of intent to C. F. Braun & Co., Alhambra, Calif., for engineering and construction of \$42,000,000 alumina plant, adjacent to the aluminum reduction plant now under construction in San Patricio County.

TEXAS CITY—Republic Oil Refining Co. plans refinery expansion, \$7,000,000.

TEXAS CITY—Carbide and Carbon Chemicals Co., Division of Union Carbide and Carbon Corp., announced plans for major unit for production of polyethylene resins.

WACO—Corps of Engineers, Fort Worth, will receive bids about February 28, for water well treatment and distribution and repair of existing facility, Connally Air Base.

WACO—Corps of Engineers, Fort Worth, will receive bids about March 12, for AM Club Connally Air Base.

WICHITA FALLS—Corps of Engineers, Tulsa, Okla., let contract to T. C. Bateson Construction Co., Irwin-Keasler Bldg., Dallas, at \$1,211,700 for maintenance and operations facility, Sheppard Air Base.

WYLLIE & LAYTON—Gulf, Colorado & Santa Fe Railroad Co., let contract to J. W. Moorman & Son, P. O. Box 491, Snyder, Tex., at \$79,705, for railroad relocation.

VIRGINIA

ALEXANDRIA—School Board let contract to F. H. Martell Co., Washington, D. C., at \$848,700 for Robert E. Lee School.

BRUNSWICK COUNTY—Board of Education let contract at \$231,200 to Motley Construction Co., Farmville, for Southside Elementary School.

CARROLL COUNTY—School Board let contracts to Trinkle & Dobyns, Dublin, at \$50,000 for Sylvester School, at \$39,900 for Oakland Elementary School; and at \$67,000 for Woodlawn Consolidated School.

CHRISTIANSBURG—Gallimore & Lively, Pulaski, has general contract at \$39,900 for superstructure new building, Christiansburg Institute.

CLEVELAND—Board of Education received low bid of \$272,840 from Burleson Construction Co., Johnson City, Tenn., for elementary school and alterations to high school and gymnasium at Cleveland High.

ELIZABETH CITY COUNTY—Corps of Engineers received low bid from Howd-Mitchell Construction Co., Richmond at \$277,620 for alert hangar, Langley Air Base.

FAIRFAX—Fairfax County School Board sold \$3,500,000 bond issue to National City Bank of New York for school construction.

FAIRFAX—Fairfax County let contract to Eugene Simpson & Brothers, 300 Montgomery, Alexandria, at \$782,777 for addition to Fairfax County Court House and new jail & police quarters.

FAIRFAX COUNTY—Fairfax County Board of Education, Fairfax, let contract at \$299,880 to Eugene Simpson & Brothers, Alexandria, for Freedom Hill Elementary School.

FORT ELISTON—Corps of Engineers, Norfolk, received low bid from Cavalier Electric Co., Hilton Village, at \$349,000 for electrical distribution system.

FORT MONROE—Corps of Engineers, Norfolk, let contract to J. Kennon Perrin Co., Richmond at \$154,804 for cold storage facilities.

FRANKLIN AND PATRICK COUNTIES—Corps of Engineers let contract to Ralph E. Hills, Salem, Va., at \$459,800 for relocation Virginia Route 623, Smith River & Ryans Branch, Philpott Reservoir project.

ISLE OF WIGHT COUNTY—Board of Education let contract at \$106,800 to Thorington Construction Co., Richmond, for Windsor Elementary School.

MCKENBURG COUNTY—Corps of Engineers let contract to Jones, Thompson & Wright, South Hill, at \$465,230 for Island Creek pumping station, Buggs Island Reservoir.

MCKENBURG COUNTY—Corps of En-

(Continued on page 56)

Baltimore Building Permits Top \$81,000,000 Last Year

Building permits issued last year by the Bureau of Building Inspection of Baltimore totaled \$81,623,750. Of the figure, \$65,740,110 was for new buildings and structures, \$10,175,640 for additions, and \$5,708,000 for alterations.

Almost sixty per cent of the new building aggregate was represented by the \$39,310,755 permits issued for residential construction. Second highest among the various types of work was the \$6,367,500 for apartment houses, with institutional building amounting to \$3,582,000.

Totals for other types of work were \$3,552,965 for private assembly buildings; \$3,436,000 for commercial buildings; \$2,551,300 for office buildings; \$1,857,435 for storage buildings and \$1,716,000 for industrial buildings. Miscellaneous buildings and structures were valued at \$3,386,155.

Building Permit Peak Set at New Orleans

Building permit figures for New Orleans proper during 1951 were second highest in history. Construction activity in the metropolitan area of Jefferson, Orleans and St. Bernard parishes reached an all-time high due to the acquisition of new industries.

These facts were contained in an annual study prepared by Arthur S. Graham, business analyst of the Chamber of Commerce of the New Orleans Area.

Federal controls on construction plus an expected decline in demand for new homes dimmed expectations for 1952.

New Orleans building permits totaled \$69,799,044 last year. This brought the six years' postwar total since 1946 to \$270,631,024, recording the biggest building boom in the city's history. Reflecting the tremendous demand for new homes caused by the city's rapid increase in population, 54.1 per cent or \$145,978,875 represented permits issued for new dwelling units. Industrial and commercial permits were \$78,515,383 for 29.1 per cent of the total. Repairs, alterations and demolitions of \$45,536,766 accounted for the remaining 16.8 per cent.

With an increased population of 87,293 from 494,537 in 1940 to an estimated 581,830 at the end of 1951, a demand was created for some 24,940 new dwelling units. During the past six years alone, permits for construction of 22,110 units have been issued. Considering the decrease in homes built during the war years due to government restrictions, it is nevertheless apparent that the housing shortage has been alleviated in New Orleans except for dwellings in the \$5000-\$6500 price class. Construction costs prevent erection of homes in this bracket.

During the past decade there has been a substantial internal migration of people to suburban areas. This trend, augmented by the high birth rate and influx of people from other sections of the country, boosted the population of Jefferson Parish from 50,427 in 1940 to 103,875 in 1950. The gain of 106 per cent was by far the greatest of any parish in the state. It is estimated that 15,270 new dwelling units have been constructed in Jefferson Parish during this period to accommodate the spiraling population.

A continuing demand for additional housing and commercial and industrial buildings should continue during the immediate future as the New Orleans area continues its rapid growth. However further cut-backs in the supply of critical materials and a somewhat abated demand tempo will drop building activity this year from the peaks reached in 1950 and 1951.

Solvents Awards Contract for Plant Expansion

Commercial Solvents Corporation has awarded a contract for the construction of additional ammonia and methanol production units at Sterlington, La., to Ford, Bacon and Davis Construction Corp., Monroe, La., it has been announced by Maynard C. Wheeler, vice president in

\$3,566,553 Awards Made for Oklahoma Road Work

Projects the Oklahoma state highway commission had estimated at \$3,566,553 were let to contract in January at the combined low bid of \$3,458,767 or \$107,786 less than engineers had figured.

Reflecting the tight steel situation were bids on three major bridge construction jobs. Low bids ranged from 9.25 to 24.48 per cent higher than cost estimates.

The commission disapproved the low bids on two bridge jobs and made acceptance on the other.

Oklahoma Paving Co., of Oklahoma City, bid \$174,072.91 on two concrete girder span bridges on U.S. 59 in Adair county, a bid that was 24.48 per cent higher than the \$139,838.92 estimate.

J. A. Raines, of Muskogee, was low bidder on the sub-structures of two steel bridges on S.H. 20 in Osage county with a figure of \$120,244.44 or 18.45 per cent above the \$101,514.22.

Both projects will be re-advertised for later letting.

The commission accepted the \$176,481.91 bid of the Gragg Construction Co., of Henryetta, on four bridges on U.S. 75 in Okmulgee county although the price was 9.25 per cent higher than the \$161,535.77 estimated.

Of the 62,041 construction miles contracted, 32,068 represented paving.

Awards were as follows:

Okmulgee County—F-53(13)Gr, U.S. 75, 5.795 miles 36-foot roadbed from north of junction of U.S. 266, extending north, estimated cost, \$312,063.61; S. E. Evans Construction Co., Fort Smith, Ark., \$237,353.59;

Okmulgee County—F-53(13)Br., U.S. 75, .075 of a mile, 150-foot concrete girder span bridge on Montezuma creek, 120-foot concrete girder span bridge on Rock creek and 120-foot concrete girder span overflow bridge, all 28 feet wide on above location, estimated cost, \$161,535.77; Gragg Construction Co., Henryetta, \$176,481.91;

Okmulgee County—F-53(13), U.S. 75, 6.02 miles 8-inch concrete paving 24 feet wide, 9½-inch sub-soil base, 4-inch sand cushion, 4-inch primed gravel shoulders 7 feet wide on above location, estimated cost, \$452,482.44; Standard Paving Co., Tulsa, \$475,155.12;

Okfuskee County—F-100(3), U.S. 62, 3.299 miles 38-44 foot roadbed, 28-44 foot seven end eight-inch concrete paving, 8 and 10-inch subsoil base, 4-inch sand cushion, 4-inch gravel shoulders 7 feet wide, 3 reinforced concrete culverts from Okemah west, estimated cost, \$450,568.44; Lyles & Buckner, Muskogee, \$448,943.10;

LeFlore County—F-116(4), U.S. 271, 7.542 miles 40-foot roadbed, 6 reinforced concrete culverts from Talihina north-east, estimated cost, \$567,821.57; W. E.

Logan & Sons, Muskogee, \$545,187.07;

Major County—S-349(5)(SH) Surf, S.H. 58, 7.655 miles 24-foot single bituminous paving, 6-inch sub-soil base, 8-inch stabilized asphaltic base, 3-foot primed gravel shoulders from Fairview south and west, estimated cost, \$150,671.42; Broce Construction Co., Woodward, \$154,359.48;

Ottawa County—F-379(1) Con. 2, S.H. 10, 1.727 miles 44-foot roadbed, reinforced concrete culvert at Spring river approximately 5 miles east of Miami, estimated cost, \$102,740.41; F. L. Gaines & Sons, Miami, \$93,808.87;

Osage County—S-386(5)(SH) Pt. Gr., S.H. 20, 7.601 miles 34-42 foot roadbed from Skiatook west, estimated cost, \$228,111.19; Oklahoma Construction Co., Muskogee, \$202,612.21;

Grady County—F-424(5) Surf, S.H. 19, 1.850 miles 7-inch asphaltic concrete paving, 4-inch primed gravel shoulders 7 feet wide, from Garvin county line northwest, estimated cost, \$90,470.35; Hunter Construction Co., Ada, \$85,747.70;

Harmon County—S-440(2)(SH) Pt. 1, S.H. 90, 6.999 miles 34-40 foot roadbed, reinforced concrete culvert from Gould south, estimated cost, \$45,933.29; Reuel W. Little, Oklahoma City, \$36,939.27;

Harmon County—S-440(2)(SH) Pt. 2, S.H. 90, 2.957 miles 34-foot roadbed, continuation of above project, estimated cost, \$20,805.54; Reuel W. Little, \$16,524.64;

Tulsa County—U-591(4) Surf, U.S. 66, by-pass, 2.386 miles 4-lane divided 8-inch asphaltic concrete 8-inch soil base, 10-foot double bituminous paved shoulders on 6-inch aggregate base on Fifty-first street in Tulsa City toward Arkansas river, estimated cost, \$459,975.21; Layman & Sons, Tulsa, \$457,720.21;

Tulsa County—U-591(5), U.S. 66, by-pass, .021 of a mile of 4-highway-highway separation bridges, 157-foot concrete slab span, 30-foot wide, two 112-foot reinforced rigid frame overpasses 27 feet wide, 160-foot rigid frame bridge 26 feet wide at junction of U.S. 66 and at 33rd West avenue and Union avenue in Tulsa city, estimated cost, \$203,039.01; M. E. Gillioz, Monett, Mo., \$198,756.05;

Grant County—SAP-1052(3) S.H. 11, 6.246 miles 36-foot roadbed, 24-foot 8-inch asphaltic stabilized base, 6-foot primed shoulders, beginning 8 miles west of Medford, extending west, estimated cost, \$145,852.22; G. I. Construction Co., Meeker, \$149,938.43;

Cimarron County—SAP-1063(2) Surf., U.S. 64, 7.905 miles 24-foot single bituminous paving, 6-inch sub-base, 8-inch asphaltic stabilized base, 6-foot primed shoulders, from 2.5 miles southwest of Boise City, southwest toward New Mexico line, estimated cost, \$174,481.84; Broce Construction Co., \$179,189.27.

Kuhns Succeeds Schreiber

John W. Schreiber, a veteran of 42 years with Aluminum Company of America, retired last month as Alcoa's chief construction engineer. He will serve until July 1 as a special consultant on construction. Mr. Schreiber is succeeded by L. B. Kuhns, who advanced from general superintendent of construction.



Above—Reynolds Metals Company's \$80,000,000 aluminum reduction plant near Corpus Christi, Texas, is expected to be in operation by spring. The four potroom buildings are 1,650 feet long, 72 feet wide. A metal service building is 500 by 165 feet. Buildings are being erected with steel framework, aluminum roofing and siding. About one million pounds of this metal will be required.

Reynolds Pushes Work On \$80,000,000 Plant

Construction is well advanced on the new \$80,000,000 aluminum reduction plant near Corpus Christi, Tex., and is expected to be producing aluminum pig in the spring, according to Richard S. Reynolds, Jr., president of Reynolds Metals Co.

Privately financed, the plant will have capacity to produce 150,000,000 pounds of aluminum a year. An electric power plant with capacity to generate 175,000 kilowatts is an integral part of the installation. Seventy-eight gas diesel engines, energized by natural gas, will generate the electricity required to operate the huge plant.

Reynolds was recently authorized by the government to proceed with plans for erection of an alumina plant adjacent to the aluminum reduction plant. This operation will have a capacity of 1000 tons of alumina a day and will cost approximately \$45,000,000, it is estimated.

The plant will be supplied with bauxite from the Reynolds Jamaica Mines Ltd., a subsidiary which is developing bauxite mining operations in Jamaica, where the company has extensive reserves of the ore.

The aluminum reduction plant is situated on a 1,600-acre site in San Patricio County, Tex., and covers 435 acres. Of this area more than 25 per cent will be covered by buildings containing in excess of a million square feet of floor space. Buildings are being constructed with steel framework. Siding and roofing are of aluminum and will require a million pounds of this material.

The plant is generally referred to as a

reduction plant. However, it is actually three plants in one.

A power plant supplies the large quantity of electrical power required for the electrolytic reduction of alumina to aluminum.

A reduction plant houses the electrolytic cells where the actual reduction takes place by the Soderberg process.

The carbon plant manufactures the carbon required to form the anodes and cathodes of the reduction cells.

Four 1,650-foot-long "pot room buildings" 72 feet wide and separated by 50-foot-wide concrete courtyards, house the heart of the reduction plant; the electrolytic reduction cells.

Essentially the cells are a rectangular open top box with a carbon lining which forms the cavity and a superstructure framing which provides support for the carbon anode.

All the cells in a "pot line" are connected electrically with aluminum bus bar, for which 10,000,000 pounds of aluminum is required to transmit the electrical power from the power plant to the cells.

A metal service building 500 feet long and 165 feet wide has three holding furnaces with 220,000-pound capacity, so that the aluminum tapped from the cells may be completely fluxed to give maximum purity. There will be three rotary casting wheels that will allow 50-pound aluminum pigs to be cast in a continuous operation from the furnace.

Three direct chill casting units are being provided so that billets ready for the scalper and rolling mills may be poured.

A 55-foot bay of this building is given over to a double track railroad with loading dock facilities on both sides to improve loading conditions during inclement and hot weather. One end of the building is extended to add 35,000 square feet of covered pig storage area.

Located adjacent to the metal service building is a masonry, completely air-conditioned laboratory 146 feet long and 43 feet wide. Supplied with the latest equipment, the laboratory technicians will be able to maintain a continuous check and control on metal quality. Metal specimen analysis will be made by spectrograph.

Completing the reduction plant is an ore unloading building large enough to facilitate six railroad cars for unloading. Not only alumina ore, but cryolite, soda ash, fluorspar and spar for cell bath will be unloaded at this point. Unloading and conveying to any one of the eight concrete storage tanks will be by a pneumatic system. Also a 100 by 62-foot building will provide storage for alloying material for the blending of aluminum alloys.

The power plant generates both the direct current required in the reduction process and the alternating current to provide the large quantity of machinery power and to provide lighting.

Two buildings, located only 35 feet from one end of the pot rooms to reduce transmission power loss contain the D.C. generating equipment. A third building contains the A.C. equipment. These buildings at the bay side of the plant are

(Continued on page 34)

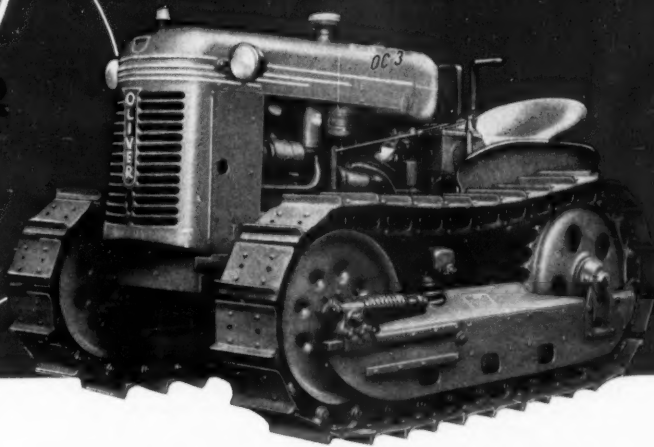
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Above—Left—Bending machine shapes 40-foot joint of pipe to fit the contours of the countryside during construction of Texas Eastern Transmission Corporation's 791-mile line from Kosciusko, Miss., to Connellsville, Pa. Right—Pipe is wrapped with protective layers of fibre glass and heavy kraft paper over a coat of enamel.

Texas Eastern Constructing 791-Mile Pipeline

Texas Eastern Transmission Corp. is engaged in an expansion program which will expand its present system by 791 miles of 30-inch line, making an extensive network of 4,230 miles of natural gas pipeline. The 30-inch pipeline is the largest expansion engaged in by Texas Eastern since the formation of the corporation in 1947 to purchase the wartime Big Inch and Little Inch pipelines.

The new line is expected to be in operation as far north as the first crossing of the Ohio River before spring of this year and the entire project is expected to be completed by summer of 1952. The 30-inch pipeline is the latest major expansion of Texas Eastern and its 400 mmcf daily capacity will up the company's daily delivery capacity to greater than 1.2 billion cubic feet. The total of 826 miles of 30-inch line will increase the company's pipeline mileage to more than 4,200.

\$114,300,000 Expansion

Total cost of the expansion is approximately \$114,300,000 and includes 791 miles of 30-inch pipeline and eight new compressor stations, the development of a natural gas storage field in western Pennsylvania, thirty-five miles of 30-inch line to the storage field, and construction of four compressor stations of the company's existing lines east of Connellsville, Pa.

The new pipeline extends in a northeasterly direction from Kosciusko, Miss., through Alabama, Tennessee, Kentucky, Ohio and West Virginia to Connellsville, where it ties in with the 24-inch and 20-inch main lines of the company.

The southern terminal of the line at Kosciusko, Miss., ties in with a new pipeline of another company which will supply up to 134 billion cubic feet of gas to Texas Eastern at the Kosciusko terminal.

At the northern connection of the line near Connellsville, the gas will either be transported eastward through

Texas Eastern's existing system or will be injected into storage for future use.

Route of the pipeline crosses seven rivers—the Tennessee, Cumberland, Kentucky, Hocking, Muskingum, Monongahela and Ohio. The Ohio River is crossed twice—at the northern border of Kentucky and the southeastern border of Ohio. In most cases, two lines will be laid as a safeguard against floods.

New compressor stations on the 30-inch line will provide 53,800 additional horsepower to Texas Eastern's system. The conversion and reactivation of four oil pumping stations and two new stations will provide 50,680 horsepower, giving the system a total installed horsepower of 381,880.

Two Types of Stations

Both gas-driven reciprocating compressors and electric-driven centrifugal compressors will be installed on the new line. Although two types of stations will be used, the general layout for the stations is similar. Air-cooled seal oil cooling systems will be used on all centrifugal stations, and scrubbers will be used at all stations.

The reciprocating compressor station near Kosciusko will have five 2,500 horsepower Cooper-Bessemer GMW-10 units developing a total of 12,500 horsepower. The station near Danville, Ky., will be an 8,800 horsepower reciprocating station with five Clark 1,760 horsepower HBA-8 units. At Mattes, Pa., on the existing lines the station will initially be powered by five Clark HBA-6 reciprocating compressors of 1,320 horsepower each and eventually will have 11,880 horsepower with nine 1,320 horsepower units installed. Near Connellsville, Pa., where the new line will join the existing system of Texas Eastern, a 4,400 horsepower station will have four 1,100 horsepower Ingersoll-Rand KVG-103 reciprocating units. The easternmost reciprocating station will be at Lambertville, N. J.,

where a 4,400 horsepower station, powered by four Cooper Bessemer gas engine compressors of 1,100 horsepower each, will be erected. Three other stations at Chambersburg, Marietta, and Phoenixville, all in Pennsylvania, will aggregate 30,000 horsepower.

Four Centrifugal Units

Four centrifugal compressor stations will be erected on the 30-inch line and will have DeLaval centrifugal compressors powered by 2,500 horsepower electric motors. Stations at Barton, Ala., Gladeville, Tenn., and Wheelersburg, Ohio, will have three DeLaval compressor units with each station developing 7,500 horsepower. The station at Berne, Ohio, will develop 10,000 horsepower with four DeLaval centrifugal units.

Eight major river crossings, involving seven rivers, will be made by the pipeline. All crossings will be underwater, and the pipe will be buried from three to five feet beneath the river bottoms. River pipe will be concrete-coated to reduce buoyancy.

River Crossings Listed

Following the right of way south to north, river crossings are as follows:

Tennessee River—in the vicinity of the Muscle Shoals area in Alabama, approximate distance 4,000 feet, two crossings—30-inch and 24-inch;

Cumberland River—12 miles northeast of Lebanon, Tenn., approximate distance 800 feet, two crossings—30-inch and 24-inch;

Kentucky River—15 miles northeast of Lexington, Ky., approximate distance 520 feet, two crossings—30-inch and 24-inch;

Ohio River—2 miles south of Wheelersburg, Ohio, approximate distance 2,400 feet, two crossings—30-inch and 24-inch;

Hocking River—6 miles from Athens, Ohio, approximate distance 220 feet, one crossing—30-inch;

Muskingum River—4 miles from Waterford, Ohio, approximate distance 650 feet, two crossings—30-inch and 24-inch;

Ohio River—2 miles from Powhatan Point, Ohio, approximate distance 1,270 feet, one crossing—30-inch;

Mononghela River—12 miles from Uniontown, Pennsylvania, approximate distance 810 feet, one crossing—30-inch.

Texas Eastern has joined with New York State Natural Gas Corp., Pittsburgh, Pa., in developing a 19,000-acre underground storage reservoir approximately 35 miles north of Connellsville.

Huge Reservoir Capacity

The reservoir is a substantially depleted gas field which had an original capacity of about 500 billion cubic feet. Shallow sands extend over the area and more than 200 wells were drilled into the pay zone. At the present time, some of these wells are being plugged and others are being reworked for injection and removal of gas. In addition, several new wells are being drilled to increase deliverability of gas both to and from the field.

A compressor and injection station, costing \$7,500,000 will be erected at the field with a total horsepower of 30,000 being supplied by reciprocating gas engines. Cost of the station plus the developing of the field and the 35-mile 30-inch line connecting to the main system will bring the overall cost of the project, including cushion gas, to \$40,000,000, jointly shared by both companies.

In the initial stages of the field, 45 billion cubic feet of gas will be injected as a base, and 60 billion will be deposited against future withdrawals. The "in storage" gas will provide each participating company access to 30 billion cubic feet per year for use during peak demand periods.

Founded in 1947

Texas Eastern Transmission Corp. is a Delaware organization headquartered in Shreveport. Executive personnel include George R. Brown, chairman of the board; R. H. Hargrove, president; George T. Naff, executive vice-president, and E. R. Cunningham, vice president (operations).

Texas Eastern Transmission Corp. was founded in January, 1947. It began operation of the inch lines on a lease basis May 1, 1947 and effected final purchase agreements November 14. A vast program was undertaken to convert these lines into natural gas carriers, and in two years 26 compressor stations were built on the existing lines. The original daily capacity of 138 million cubic feet in 1947 was increased to more than 800 million cubic feet.

"Inch" Routes in System

The 24-inch Big Inch extends 1,254 miles from Longview, Texas, to Phoenixville, Pa. From there a 20-in. extension leads to Linden, N. J. The Little Big Inch—a 20-inch line—runs from Beaumont, Texas to Little Rock, Ark., and

then parallels the Big Inch to Linden, a total of 1,479 miles.

When the present expansion is completed, Texas Eastern will have a pipeline mileage of 4,230 miles and a total of 38 compressor stations with a combined horsepower of 381,880.

Pipelines:

Miles of Pipe by Size of Pipe:	
30-inch (new construction)	826
26-inch	157
24-inch	1,263
20-inch	1,657
16-inch	181
under 16-inch	146
Total	4,230

Compressor Stations:

Type	Number	Installed Horsepower
Centrifugal	16	188,500
Reciprocating	10	88,900
Additional:		
Centrifugal	7	62,500
Reciprocating	5	41,980
Total	38	381,880

At Station No. 16 there is one station of each type making 26 stations on only 25 station sites.

Brown and Root, Inc., Houston, are general contractors in charge of the entire project and doing engineering and construction work for the new compressor stations.

Major Subcontractors

Major subcontractors for pipeline spreads are Williams Brothers—Davis Company, Houston, 163 miles from Kosciusko to Tennessee River; Eastern Pipe Line Contractors, Dallas, 76 miles from Tennessee River to Columbia, Tenn.; H. B. Zachry Co., San Antonio, 73 miles from Columbia, Tenn. to Cumberland River; Oman Construction Co., Nashville, 79½ miles from Cumberland River to Columbia, Ky.; N. A. Saigh Co., San Antonio, 82 miles from Columbia, Ky., to Kentucky River, and Mahoney Contracting Co., Lansing, 100 miles from Kentucky River to Ohio River, and 35 miles from Connellsville, Pa. to Delmont, Pa. (storage line).

Major subcontractors for river crossings are Tennessee River: Oklahoma Contracting Co., Dallas; Cumberland River: Pentzien, Inc., Omaha; Kentucky River: Pentzien, Inc., Omaha; Ohio River (Kentucky-Ohio): Pentzien, Inc., Omaha, and Ohio River (Ohio-West Virginia): Williams Bros., Tulsa.

Right—Top—Sideboom tractors lower heavy section of pipe into ditch on Texas Eastern Transmission Corporation's new 30-inch pipeline soon scheduled for completion between Kosciusko, Miss., and Connellsville, Pa. Middle—Ditch under the Kentucky River is "clammed out" during construction of the 791-mile route. Bottom—Tough pipe gets tender treatment as section is first covered by cushion of soft dirt before rocks of a Tennessee hillside are replaced in the ditch.



Action and Information Mark Roadbuilders' Meeting

Four days packed with information and action marked the golden anniversary meeting held last month by the American Road Builders' Association at Houston, Tex., where delegates from as far as New England, the Southeast and the Pacific Northwest gathered to exchange ideas, listen to experts in practically every phase of highway life and to elect officers for the current year.

Reinhold Re-elected

Top executive who will again guide the national roadbuilders' organization through 1952 is Paul B. Reinhold, president of Atlanta Equipment Corp., Pittsburgh, Pa.

The four vice presidents are: Southern District, Charles W. Smith, president of Smith Engineering & Construction Co., Pensacola, Fla.; Northeastern District, Charles M. Noble, chief engineer of the New Jersey Turnpike Authority, Trenton, N. J.; Central District, M. J. Hoffman, Minnesota Commissioner of Highways, St. Paul, Minn., and Western District, A. Dieffendorf, head of the department of civil engineering, University of Utah, Salt Lake City.

Jennings Randolph, assistant to the president of Capital Airlines and former congressman, was returned to the treasurer's post, while Maj. Gen. Eugene Reybold was retained as executive vice president.

Seven Directors Named

Seven directors elected to terms expiring in 1955 are Paul L. Andrews, executive secretary of the Georgia Highway Contractors Association, Atlanta; T. B. Hale, vice president of International Harvester Co., Chicago; Robert M. Reindollar of Baltimore, Md., and Charles H. Sells, of New York, both consulting engineers; Bernard E. Gray, president of the Asphalt Institute, New York; J. E. McCracken, sales engineer of Bethlehem Steel Co., Bethlehem, Pa., and Paul B. Rynning, Jackson, county engineer, of Medford, Ore.

C. I. M. A. Officers

Julien R. Steelman, vice president of the Koehring Co., Milwaukee, Wisc., was elected president of the Construction Industry Manufacturers Association, along with H. T. Reishus, general manager of the industrial power division of the International Harvester Co., Melrose Park, Ill., first vice president; C. F. Boyd, vice president of Gallion Iron Works & Manufacturing Co., Gallion, Ohio, second vice president, and R. E. McCluskey, vice president of R. G. LeTourneau Co., Peoria, Ill., secretary-treasurer.

Directors for three years of the manufacturers' division are: W. E. Greene of Barber-Greene Co., Aurora, Ill.; Chauncey B. Smythe of Thew Shovel Co., Lorain, Ohio; Ralph K. Stiles of Austin-Western Co., Aurora, Ill.; Boyd S. Oberlink of Allis-Chalmers Manufacturing Co., Milwaukee, Wisc.; J. G. Miller of Baker Manufacturing Co., Springfield, Ill.; Robert J. Ritchey of United States Steel Co., Pittsburgh, Pa., and J. W. Lloyd of Ohio

Oil Co., Findlay, Ohio.

Officers and directors for the contractors' division are Joseph D. Bonness of Milwaukee, Wisc., president, and S. Howard Brown of Lebanon, Pa., vice president; C. Grady Coffee, Eastman, Ga.; James E. Lambert, White River Junction, Vt.; E. E. Hoebeil, Madison, Wisc.; O. W. Merrell, Columbus, Ohio; L. W. Lamb, Holland, Mich.; John P. Moss, Leeds, Ala.; P. J. Walsh, Charleston, W. Va., and E. V. Williams of Norfolk, Va., directors.

Warren A. Coolidge, director of public works of Nashville, Tenn., heads the municipal and airport division this year. With him are vice presidents, Southern District, Soule Butler, Alexandria, La.; Northeastern District, Maj. Gen. Donald Connolly, (ret.), Baltimore, Md.; Central District, T. Montgomery, Cincinnati, Ohio, and Western District, Frank Wiley, Helena, Mont.

Municipal Airport Division

The seven municipal and airport division directors are: A. G. Wyler, New Orleans, La.; William L. Chilcote, Baltimore, Md.; F. A. Bolton, Columbus, Ohio; Robert Mitchell, Harrisburg, Pa.; Ralph G. Wadsworth, San Francisco, Calif.; William T. Raymond, New York, and Victor Dallin of Philadelphia, Pa.

President of the county and local roads division is Julius Kaestner, Jr., Albany, N. Y. Vice presidents are: Southern District, Leonard W. Gardner, Hillsboro, Tex.; Northeastern District, Earl Mattis, Massena, N. Y.; Central District, Allan Williams, Ionia, Mich., and Western District, Howard L. Way.

Directors of the county and local roads division are: J. Fred Offutt, Towson, Md.; D. W. Leonard, Kansas City, Mo.; L. C. Boone, Orangeburg, S. C.; A. N. Solle, Jacksonville, Fla.; T. W. Switzer, Visalia, Calif.; Paul Rynning, Medford, Ore., and Otto S. Hess of Grand Rapids, Mich.

Perhaps one of the most significant addresses was that delivered by Julien R. Steelman, head of the manufacturers di-

vision, on the equipment outlook for the road building industry. Manufacturers, he said, in general have been held to about seventy-five per cent of the materials required for peak production.

Equipment Prospects Discussed

Generally, he predicted that heavy tractors and medium-sized shovels will be difficult for the civilian buyer to obtain. Small crawler tractors and rubber-tired tractors should be in reasonably close balance with demand. Despite heavy military demand for its products, the crusher industry expects to take care of its customers.

The grader picture he described as "somewhat mixed." There are heavy military requirements with some companies and for some sizes of graders. Lighter graders, for example, are in fairly good supply; heavy graders, tight.

An enigma is seen in the scraper field, with a few companies having heavy backlogs of government business, a few others with none. Materials restrictions in this field seem to have been particularly severe. The answer as to availability also seems "to be a mixed one." Some sizes will be hard to get; some makes very difficult.

Asphalt, Concrete Plants

Asphalt plants and concrete batch plants and pavers, Mr. Steelman declared, "are casualties of the philosophy that roads are expendable, or, if you wish, deferrable. This type of equipment will be hard to get and you are probably going to have to bear with its manufacturers on delays in delivery from time to time."

Trenching machinery is expected to be in reasonably close balance with demand, unless there is an increase in pipeline programs. Military needs are substantial but the belief is that they can be met without cutting civilian supplies greatly.

Pavers and black top plant manufacturers have experienced the most severe cuts in material of any of the major categories of compression construction equipment. "These items will almost certainly be in short supply regardless of military requirements," according to Mr. Steelman, who said "paradoxically, some of the small items in the construction equipment may be in better than normal supply."

Many Authorities Talk

Many experts on the various facets of the road building industry participated in the program. The South was especially well represented. A. E. Johnson, chief engineer of the Arkansas State Highway Commission, for instance, talked on current problems of state highway departments, and pointed out that despite the fact that the state highway departments had \$2,712,000,000 in state funds available, they are losing ground as far as financing and replacing highways is concerned.

Mr. Johnson declared that one of the main deterrents to adequate financing of highways was the use of "tax" in refer-

President Paul B. Reinhold



ring to highway user revenue. The word is extremely unpopular to the average person who never stops to analyze the highway finance problem "as to what he is paying versus what he desires and requests."

"It has been demonstrated through the operation of modern toll roads," Mr. Johnson said, "that the motorist is willing to pay many more times the rate that he pays in motor user taxation, but in another form, for the privilege of traveling over a modern, luxury-type highway."

Steel a Road Problem

The manner in which steel allocations are being made was also stressed as a current highway problem. Highway departments have in no way padded their estimates on minimum steel needs, and Mr. Johnson said "it is not the intention of highway officials to ask for any steel that is needed" for the defense expansion program.

The need for structural shapes is very apparent and if reinforcing steel could be made available in increased quantities the highway departments could go ahead with much needed work which they are now hesitant to plan. Construction of many projects requiring small amounts of steel would be facilitated if "self-certification" of 25 tons of steel would be allowable by the federal agency.

Texas was well represented on the program. One of the speakers was DeWitt C. Greer, Texas state highway engineer, who told about development and financing of the urban expressways of his state, which has finished substantial stretches of expressways in four major cities—Houston, Dallas, San Antonio and Fort Worth—and now has additional sections under way and has added Austin and Beaumont to the list.

D. C. Greer Speaks

The projects are operated under engineer-manager administrative control. An engineer of unquestioned background both from the experience and ability viewpoints was placed in charge of each project, with duties and responsibilities such as public acceptance, detailed negotiations, advance planning, plan development and construction. Mr. Greer proudly declared that "we are proud of the success of this system of administration."

"Public acceptance of these heavy thoroughfares into or adjacent to the big business districts, on wide and expensive rights-of-way supplied by the locality, far exceeded our expectation. We found the people of Texas in these congested urban areas ready for relief. In reality, the co-operation of our cities has not only kept pace with our available finance for construction, but has led us two or three years at every stage of the planning."

On the subject of expressway finance, Mr. Greer said the plan "is rather simple." The city and state governments join in the advance planning as well as in detailed preparation of project plans. Engineering costs are borne by the state. Right-of-way information is prepared by the state in conjunction with the city. The city at its own expense secures a clear, unobstructed right-of-way. Texas bears



Maj. Gen. Eugene Reybold,
Executive Vice President

the full cost of construction and maintenance after completion. Cost of illumination and its upkeep is on a fifty-fifty basis.

W. J. Van London, engineer-manager for the Houston Urban Expressways, one of the units referred to by Mr. Greer, went into more detail. Right-of-way is a major problem on any expressway project, he said, and told how a movement started in 1939 bore fruit two years later in the form of \$900,000 in county bonds earmarked for the purpose.

Houston Expressway Described

The Houston expressway is a 30-mile system, although some of the length will not reach the construction state for 15 years at the present rate of financing construction. The state has present location layouts and the city is protecting a minimum 300-foot right-of-way. This is accomplished by refusing building and improvement permits and purchasing property where forced to do so.

The Houston expressway consists essentially of an east-west and north-south freeway passing within a half-mile of the central business area and connecting with partially controlled access highways near the city limits. In general, the expressways for a distance of five to seven miles in each direction from the central business area will have six 12-foot lanes divided by 32-foot frontage roads on each side.

Construction was started in 1946, Mr. Van London stated, "on what is locally known as the Gulf Freeway" which extends from Houston to Galveston, a distance of 40 miles. Construction will be completed this year at a cost of \$21,000,000. The right-of-way cost approximated \$2,750,000. First section—three and one-half miles—was opened to traffic in Houston in 1948, with a traffic load of 28,800 vehicles on the first day. This has increased to 69,500 with occasional peaks of 72,000.

A unique feature of the Gulf Freeway is the traffic collection and distribution system near the central business area. Traffic is loaded and unloaded through a "four-street system" one and one-quarter miles long which merges with the freeway to the southeast and will later merge

with the north expressway to the northwest.

The "four-street system" intersects 18 north-south streets which carry almost all of the huge volume of traffic between the central business area and the southern and southwestern sections of the city. All traffic movement through the 72 intersections is controlled by interconnected, synchronously-operated traffic control signal system. Thus the four streets and the 18 cross-streets constitute a master interchange.

Expressway Economic Value

Economic value of expressways was discussed by Charles M. Noble, chief engineer of the New Jersey Turnpike Authority. Many cities and urban areas are sick with the paralysis of high taxes, street traffic congestion, inadequate, slow and congested mass transit, obsolescence, inefficient merchandising and an antiquated municipal government administration mechanism.

People, commerce and industry moved out of such areas to escape high taxes, get more light and air, and enjoy less obsolescence, accident hazards and traffic congestion. This flight causes loss in tax rates, which in turn means tax rate rises. An entirely new approach is seen needed to meet the challenge, with the city being "resold" to the "customer," the dweller, worker, the businessman and the industrialist.

Mr. Noble noted "an unfortunate controversy concerning toll roads," although with the highway deficiency crisis so acute, he sees "no room for controversy or divided leadership. The country at large expects the highway industry to solve the highway deficiency problem and failure to do so promptly will cause a loss of confidence and result in the initiative being taken by other groups."

Soil Stabilization Addresses

Strong evidence was presented during the convention on what the South is doing in the way of further developing new methods aimed in lowering costs of construction and improving results. Feder L. Goodman, engineer with Barber Brothers Co. of Baton Rouge, La., discussed soil-cement in Louisiana. Ben T. Collier, State Aid engineer for Mississippi, told of economical construction of county roads with emulsified asphalt.

Lime stabilization in Texas was the subject of a paper delivered by H. C. Carter, district construction engineer of that state. The Value of Wire Fabrication in Concrete Slabs was the subject of a treatise by Prof. E. W. Carlton, of the department of civil engineering of the Missouri School of Mines. R. L. Oldham, director of public works at Lubbock, Tex., reported on reconstruction of his city's airport with soil cement.

Mr. Goodman said soil-cement construction has been profitable to his firm, which has completed as high as 12,000 square yards of 22-foot roadway in a single day. Acceptance of such construction in Louisiana has been "phenomenal," he declared, pointing to the 8,100,000 square yards, or slightly over 700 miles of 18-foot

(Continued on page 32)



Above—Left Picture—Walter C. Hopkins, newly elected president of the Maryland engineers is congratulated by William P. Fannon, retiring president. In the group are J. Eldridge Woods, a past president; Christian J. Lortz, treasurer; Mr. Fannon; James H. McKay, second vice president; Mr. Hopkins; Ben Dyer, first vice president, and Louis Kravetz, secretary. Middle Picture—Gov. Theodore R. McKeldin, of Maryland, addressing the afternoon session. Right Picture—Chairman Russell H. McCain, of the Maryland State Roads Commission, presents flowers to Mr. Hopkins, his deputy chief engineer. Enjoying the occasion are Representative George H. Fallon and retiring President Fannon.

Below—More than 600 members and guests attended the annual convention held last month at Baltimore by the Maryland Association of Engineers. These views are at the morning session.



Maryland Engineers' Program Declared Big Success

Maryland's new Chesapeake Bay bridge, New York's tunnels, highway lighting and soils engineering and the Navy's construction engineers were featured late last month at Baltimore when the Maryland Association of Engineers met at the Emerson Hotel to participate in a streamlined program described by many present as the best in the organization's history.

Hopkins Elected President

The election held simultaneously with the one-day convention resulted in elevation of Walter C. Hopkins, deputy chief engineer of the Maryland State Roads Commission, to the presidency of the state-wide engineer group, succeeding

William P. Fannon, who had held the position for the preceding year.

Other officers elected with Mr. Hopkins were Ben Dyer, consulting engineer of Hyattsville, first vice president; James H. McKay, municipal highways engineer of Baltimore, second vice president; Louis Kravetz, of the state bridge department, executive secretary, and Christian J. Lortz, district engineer in the Baltimore bureau of highways, treasurer for another term.

Two new field secretaries were selected. They are M. Monroe Townshend, of the Maryland State Roads Department, and John O. Hobbs, highways engineer for the Portland Cement Association.

Elected directors were George Langenfelder, of the contracting firm of C. J.

Langenfelder & Son, and William L. Chilcote, deputy highways engineer for Baltimore. Other members of the board of directors are William P. Fannon, the retiring president and sanitation engineer for Baltimore, and Arthur W. Tayman, the preceding past president.

Representative George H. Fallon, Congressman from Baltimore and chairman of the House Roads Sub-Committee, and Representative J. Glenn Beall, were guests at the dinner following the formal meeting, sharing honors with the speaker guests including David Bonner, vice president of Frederick Snare Corp., Ole Singstad, New York consulting engineer, and A. F. Dickerson, manager of the lighting division of General Electric Co.

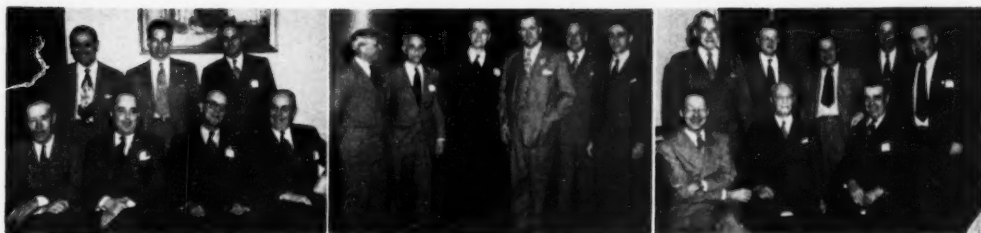
Governor McKeldin Speaks

Maryland's Governor, Theodore R. McKeldin, who spoke briefly at the afternoon session was unable to attend the dinner, and was represented by Russell H. McCain, chairman of the Maryland State Roads Commission, and Nathan L. Smith, director of the State Department of Public Improvements, Paul L. Holland, Baltimore's director of public works, was ranking engineer representing the City of Baltimore. Mayor Thomas D'Alesandro was ill and could not be present.

The convention opened with a color motion picture prepared by the federal Bureau of Public Roads, this followed by a discussion by Past President J. El-

Below—Part of the audience at afternoon session of Maryland engineers' meeting.





Above—Engineers and guests from all parts of the state attended. Left Picture—Front row: Frank Cassell, county engineer for Harford County; W. N. Barnes, P. B. Shipley and A. Chaney, of state roads department; Standing, G. D. Tyler, Alban Tractor Co.; George Grier, executive assistant engineer of Harford County; Roger Willard, road engineer for Frederick County. Middle Picture—Posed with Governor McKeldin (with Black-eyed susan, Maryland state flower, in lapel), are Joseph K. Knoerle, consulting engineer; William L. Chilcote, deputy highways engineer; James H. McKay, Baltimore's highway engineer; Governor McKeldin; James Duffy, city councilman, and Robert M. Reindollar, Jr., district engineer for the Portland Cement Association. Right Picture—Guests at a reception by John C. Louis Co., construction equipment firm, were: Front row Russell H. McCain, Maryland Roads Commission chairman; David Mulkay, of the Louis company; Albert S. Gordon, executive assistant to Mr. McCain; Standing, City Councilman James Duffy; Robert H. Quillin, Quillin Concrete Co., Eric Frederick, deputy superintendent of transportation of Baltimore; Walter R. Chalk, also of the Louis organization, and B. Warren Duckett, of state roads department.

Below—Left Picture—Paul L. Holland, Baltimore director of public works, with Ole Singstad, who spoke on subaqueous tunnels, and C. C. Neher, of local U. S. Engineer office. Second Picture—President Walter C. Hopkins, David Bonner, vice president of Frederick Snare Corp., who delivered an illustrated address on the Chesapeake Bay bridge substructure, and David Silver, resident engineer for the Severn River bridge project. Third Picture—William P. Fannon, standing, talks with Representatives George H. Fallon and J. Glenn Beall. Fourth Picture—John O. Hobbs, Portland Cement Association, Nathan L. Smith, director of the State Department of Public Improvements, and W. J. McIntosh, also of the Cement Association



bridge Woods, materials engineer for the State Roads Commission and head of its laboratory, on soils engineering the subject of the film showing.

Washington Road Cited

During his address on "Saving Lives with Traffic Safety Lighting," Mr. Dickerson noted that in the years since he first made a survey of the Baltimore-Washington highway, more than 100 people have been killed and 3,000 badly injured because of inadequate lighting which if originally corrected would have paid for itself at least four times over in economic savings.

Mr. Dickerson prefaced his talk with the observation that in 176 years 1,000-

000 Americans had fallen in battle but that in just fifty-one years 1,000,000 Americans had been killed in traffic accidents, with eighty per cent of them in the last twenty-five years.

Detroit, San Francisco, Los Angeles, Salt Lake City, San Antonio and Houston were cited by the expert as localities where lighting installations have reduced accidents. New Jersey, he said, probably does more toward saving lives with lighting than any other state by providing state aid for lighting on streets in the state highway system.

New investments to modernize existing street-lighting systems average about \$10 per capita, running considerably higher for cities now poorly lighted. Adequate

lighting on streets and dangerous sections of highways can reduce traffic fatalities 5,000 to 10,000, with economic savings of half a billion dollars annually.

Speech by Admiral Jelley

Rear Admiral J. F. Jelley, head of the navy's civil engineer corps, opened the afternoon session with his address on the corps and its work. He traced the origin of the civil engineer corps back to Thomas Jefferson, who gave the first impetus to this branch when he proposed construction of a huge drydock capable of handling a dozen or more frigates at the same time.

The present Bureau of Yards and Docks

(Continued on page 50)

Below—Left Picture—William R. Kahl, of Rummel, Klepper & Kahl; Louis J. O'Donnell, chief administrative officer of Maryland toll facilities; L. L. Ratliff, Bureau of Public Roads; J. R. Cassell, Portland Cement Association; Albert L. Grubb, bridge engineer for Maryland State Roads Commission; Second Picture—Emil Kordish, Rummel, Klepper & Kahl, Robert Detrich, of Faisant and Associates; Edward F. Rummel, also Rummel, Klepper & Kahl, and E. S. Deakney, Bureau of Sewers construction engineer; Third Picture—Group including Will Hudgins, William Shook, L. E. McCarl, Ben Grubb, of state road department; Frank Carrozza, contractor; Robert Ferber, of American Bridge division, U. S. Steel Co.; Oscar Milford, of Diamond Construction Co., and Ed Mathers, of Highway Supply Co. Fourth Picture—David L. Marley, John V. Derrenberger, Joseph Davis, of Bureau of Highways, Anthony Aiello, Paramount Construction Co., and Lewis Kaufman, C. J. Langenfelder & Sons.





Above—Officers and directors of the national Association of Equipment Dealers include: Standing, left to right: W. R. Parnell, Construction Machinery Co., Shreveport, La.; L. E. Jones, Hall-Perry Machinery Co., Butte, Mont.; Beal Shaw, Shaw Sales & Service Co., Los Angeles; R. J. Finn, Bode-Finn Co., Cincinnati, Ohio; L. M. Doolen, Telford Equipment Co., Lansing, Mich.; Seated, left to right: J. A. Benson, Benson Tractor Co., Houston, Texas; R. E. Witt-hauer, Rosholt Equipment Co., Minneapolis; R. L. Arnold, Arnold Machinery Co., Salt Lake City, past president, M. C. Bishop, Tri-State, Inc., Atlanta, Ga.; Frank Skidmore, Contractors' Equipment & Supply Co., Albuquerque, N. M., vice president and director; G. W. Gagel, Machinery & Supplies Co., Kansas City, Mo., vice president and director; S. J. Oechsle, Metalweld, Inc., Philadelphia, executive vice president; Harry J. Hush, Griffin Equipment Corp., New York, president; P. D. Hermann, A. E. D. executive secretary; J. R. Randle, A. E. D. field secretary; E. J. Crosby, Hedge & Mattheis, Boston, treasurer; A. E. Carroll, Eastern Equipment Sales, Inc., Springfield, Mass., director; E. H. Kliebenstein, E. H. Kliebenstein Co., Ridgefield, N. J., director; O. W. Robinson, West Virginia Mine & Supply Co., Clarksburg, W. Va., director.

Record-Breaking Attendance at A. E. D. Meeting

A record-breaking crowd of more than 2,600 United States and Canadian construction equipment distributors and manufacturers met late last month in Chicago for the thirty-third annual meeting of Associated Equipment Distributors.

The business program of the convention, probably the fullest ever scheduled for an A. E. D. meeting, drew top authorities from both government and industry. Topics covered in the four business sessions ranged from strictly association activities, to distributor business problems, national affairs, and the business outlook for the coming year.

Major Goals Suggested

Outgoing President R. L. Arnold opened the first business session on Monday, January 28, with brief report on AED progress under his leadership. In preparing to turn the mantle of responsibility over to future officers, Mr. Arnold suggested four major projects for development in the future: They were:

To make AED the most important factor in the construction machinery industry.

To make the association's executive office the source of industry information for all members and for all other industries.

To greater publicize the construction equipment industry, especially the methods of equipment distribution, and the importance of the distributor to the national economy.

To strive for greater membership participation in the affairs of the association.

Expanding on his second suggestion—that the association's executive office

should become the industry's clearing house for information—Mr. Arnold said, "The main purpose of an association is to build and improve the industry it serves. Improvement comes from increased knowledge and experience, but it requires facts and information to gain knowledge and experience."

Mr. Arnold was followed on the program by Treasurer E. J. Crosby, who gave a brief financial report. P. D. Hermann, executive secretary, and J. R. Randle, field secretary, gave reports of the status of the executive office and local group activities.

During this first business session, A.E.D. went on record as recommending that CPR 105, enacted late last year without consultation with the construction machinery industry, be revised to more nearly coincide with the standard practices in the industry. This action came in voting on a resolution presented to the meeting by M. J. Lyons, of Little Rock, Arkansas, chairman of the resolutions committee.

Resolutions Passed

A.E.D. also passed three additional resolutions at the meeting. The first was directed at both manufacturers and NPA, asking for balanced production of spare parts and new machinery. The second resolution was in opposition to public construction by force account and recommended that the contract method be employed on all construction by the Federal government and all governmental bodies. In the third resolution, A.E.D. asked that Congress practice every possible economy in its domestic and foreign expenditures

and eliminate all unnecessary programs.

The second business session of the meeting, held on the afternoon of Monday, January 28, dealt with distributor business problems. Three principle speakers of the afternoon were Mrs. Marjorie Creim, a Western equipment distributor; E. F. Longinotti, a banker, and J. D. Corrigan, a management consultant.

Mrs. Creim, secretary and treasurer of the Bow Lake Equipment Co., Inc., Seattle, Washington, was the afternoon's first speaker. Her address, entitled "The Customer—Our Capital Asset," pointed up the fine points of customer relations that are easily over-looked by the distributor, but which often spell the difference between success and failure.

Talk on Finance

Advantages of local bank equipment financing was the basis of Mr. Longinotti's address. Mr. Longinotti, who is vice-president of the Union Planters National Bank and Trust Co., Memphis, Tenn., pointed out some of the major pitfalls in financing and suggested some of the areas where local bankers could most effectively work to relieve the distributor of the worries of carrying customer credit.

Mr. Corrigan, the final speaker of the afternoon, turned to basic economics in his discussion of the "Sales Executives Hottest Problem." Using break-even curves and sales-profit ratio charts to demonstrate his talk, Mr. Corrigan outlined basic economic factors with which sales management should be familiar. Pointing to the results of several recent surveys which show that the sales execu-

tive is not holding his own when it comes to promotions to top management levels. Mr. Corrigan expressed his belief that sales management is badly in need of better founding in basic business economics.

The third business session of the five-day convention opened with election of 1952 officers.

1952 Officers Elected

Officers for the current year are: Harry J. Hush, of New York, president; S. J. Oechsle, of Philadelphia, executive vice president; G. W. Gagle, of Kansas City, Mo., Frank Skidmore, of Albuquerque, N. M., and J. G. G. Morgan, of Vancouver, B. C., vice presidents; and E. J. Crosby, of Boston, treasurer.

New directors include M. C. Bishop, of Tri-State, Inc., Atlanta, Ga.; G. W. Gagle, of Machinery & Supplies Co., Kansas City, Mo.; W. R. Parnell, of Construction Machinery Corp., Shreveport, La.; A. Ashley Carroll, of Springfield, Mass.; S. John Oechsle, of Philadelphia; L. M. Doolen, of Lansing, Mich.; Beal Shaw, of Los Angeles, and J. G. G. Morgan, of Canada.

This third business session, held Wednesday morning, January 30, filled the North Ballroom of the Conrad Hilton to overflowing is distributor and manufacturer members of A.E.D. crammed into the smoke-filled room to voice their objections to government activities during the past year. Two O.P.S. representatives—A. E. Loder and Leo Wasser—and two N.P.A. men—M. B. Garber and C. J. Haring—spent nearly two hours that morning explaining the actions of their respective agencies in answers to questions directed at them from A.E.D. national affairs committee and from the floor.

C.P.R. Rule Assailed

CPR 105 got the main going-over as distributors tried to find, first of all, why it was issued, and secondly, how they could work under it. Principle objections to the regulation were brought against the ninety-day clause, which was described as contrary to industry practice, the method of figuring base price, the guarantee provisions of the regulation, lack of consideration of freight charges in figuring base prices.

Both Mr. Loder and Mr. Wasser expressed the belief that CPR 105 would be amended to more nearly conform with industry practices; neither was willing to guess how long it would be before any amendments became effective. Neither could promise immediate relief from the inequities of the regulation.

On the N.P.A. side of the discussion, most of the questions resolved around priorities. Mr. Garber, who was making his last public appearance before retiring as director of the Construction Machinery Division, and Mr. Haring, his successor, took the stand that priorities should be de-emphasized by both the manufacturer and the distributor. Priorities, according to the NPA officials, were only safeguards to assure the ultimate

\$40,000,000 Plant Improvements Set for Sparrows Point

Bethlehem Steel Co. has announced expenditure of \$40,000,000 for further expansion of its Sparrows Point plant, in addition to the \$75,000,000 program already under way at that operation near Baltimore.

Aimed at increasing the output of steel for the finishing facilities at the big Maryland plant, the project will involve a new blast furnace, 64 coke ovens, open-hearth improvements and mill extensions.

Subsequently, the company revealed its ore dock will be extended from its present 1,200-foot length by a thousand feet. Addition to the slag dock is also planned.

The ore unloading wharf is of the bulkhead type and is designed for vessels carrying up to 30,000 tons. Tidewater

Construction Co., Norfolk, is reported to be the contractor for the extension.

Dredging is reported to be ready to start, with the Arundel Corp., of Baltimore, reported holding the contract for this phase of the work.

Unloading equipment to be installed, as revealed by local Bethlehem sources, includes:

Five 17-ton capacity electrically operated traveling bridge cranes each with capacities of 800 tons per hour;

Four electrically operated traveling straightline gantry cranes, two of which will have 12-ton bucket capacity with unloading capacities of 1,000 tons an hour each, and two with 17-ton buckets and individual unloading capacities of 1,600 tons an hour.

delivery of machinery, and did not guarantee faster delivery.

J. T. King, A.E.D. Washington Representative, moderated the government panel.

Before the panel discussion opened on Wednesday, Milton Rosen, past-president of the American Public Works Association and Commissioner of Public Works of St. Paul, Minn., brought attention to the highway crisis that is rapidly developing in this country with an address entitled, "What's Being Done About The Threat To Highway Transportation?"

Speaking of D.P.A.-N.P.A. administrator, Manly Fleischmann and Defense Mobilizer, Charles Wilson, Mr. Rosen said, "From the public pronouncements of these two men, it is apparent that they believe highway modernization and construction are not essential undertakings in the interest of national defense, and that severe curtailment of steel for highway construction is strictly in order."

Attitude Labeled "Dangerous"

No attitude could be more dangerous to a defense program than this, declared Mr. Rosen. Calling on the equipment industry to help awaken the public to the necessity of highway improvement, he cited statistic after statistic in building his case for highway improvement.

This theme, the pressing need for highway improvement, was picked up again during the final business session on Thursday morning, January 31, the program of which was arranged by members of the Manufacturers' Convention Suggestion Committee.

In the first address of the morning, Julian R. Steelman, president of CIMA and president of the Koehring Company, Milwaukee, said, "The tremendous basic importance of our roads and transport system seemed undebatable. The necessity of rapidly clearing away the backlog of deferred highway improvement and maintenance accumulated from policies

enforced during the (last) war seemed to be fundamental to preparedness as well as to a sound domestic economy.

"The first six months after the outbreak of fighting in Korea shook these concepts considerably, and the next six months shattered them completely."

Heavy Material Dearth Seen

Looking at the over-all picture, Mr. Steelman saw shortages of heavier construction material before the year was up, with a relatively balanced supply of lighter types of equipment. Heavy tractors, for example, would be in short supply, but small crawler and rubber-tired tractors would probably be easy to obtain for civilian use.

One of the current difficulties, he said, was that D.P.A. had cut the production of machinery by roughly 75 per cent while construction, especially the heavier types, would equal the all-time highs of 1951 with defense building replacing residential construction.

Following Mr. Steelman on the Thursday program was Walter L. Couse, Walter L. Couse Construction Co., Detroit, past-president of Associated General Contractors, who surveyed the year ahead from the point of view of the contractor. Like Mr. Steelman, he saw increased activity in heavy construction with a corresponding decline in residential and private construction.

Couse Expresses Concern

Mr. Couse also expressed concern over the possibility of a shortage of repair parts for construction equipment and added his endorsement to the resolution passed earlier in the week calling for a balance of parts with new machinery.

Military plans for the coming year were outlined by Brig. General Arthur W. Pence, assistant Chief of Engineers, military supply and equipment, Corps of

(Continued on page 58)

Equipment... Manufacturers News

Barber-Greene Announces New Assistant Sales Managers

Barber-Greene Co., of Aurora, Ill., manufacturer of conveyors, ditchers, loaders, bituminous paving and other material handling equipment, announces appointment of two assistant sales managers, Harold W. Newton and William C. Gifford.

Each will supervise a division of Barber-Greene's sales organization and will assist E. H. Holt, whose appointment as general sales manager has recently been announced.

Mr. Newton, who will be assistant sales manager of the Conveyor division, has a wealth of experience and background in conveyor engineering. After his graduation from the University of Cincinnati as a mechanical engineer he embarked on a career in conveyor design and engineering.

After thirteen years of work in this field, he came to Barber-Greene Co. in 1936 as a sales engineer, specializing in the application of the B-G line of standardized belt conveyors and accessories.

In 1942 he was appointed manager of engineered sales. In this capacity he devoted his efforts to promotion of the Barber-Greene line in underground mining and on extensive earth moving and aggregate handling applications.

He is a director of the Manufacturers' Division of the National Crushed Stone Association and of the Mine Belting Group.

William C. Gifford, who will function as assistant sales manager, Machine Sales, brings to his new post, more than fifteen years of service in various departments of the B-G sales organization.

A graduate of the University of Illinois, Mr. Gifford served with the merchandising section of Sears-Roebuck & Co. for several years before coming to Barber-Greene in 1936. In the ensuing period, he has served as a market research analyst, as an expert in the company's bituminous paving line and since 1950, as sales office manager.

New Caterpillar Catalog on D2 Diesel Tractor

A close look at mechanical features is provided in a new catalog entitled, "Caterpillar" Diesel D2 Tractor.

Subject of the catalog is a 32 drawbar horsepower machine with many applications in agriculture, construction, logging, mining and other fields. Its purposes include general tractor power for the average owner, and an extra "hand" on odd jobs for the larger operator.

Part-by-part, the catalog explains how the machine is built, what it's like and how it performs. Typical jobs are shown, along with reports from actual D2 tractor owners.

More than 60 pictures are included in the 32-page booklet presentation. Copies of the new D2 Tractor catalog (Form No. 30284) may be obtained from Caterpillar Tractor Co., Peoria, Ill., and its dealers throughout the free world.

Wallace Named To New Allis-Chalmers Post

William M. Wallace has been appointed an assistant to the vice president of Allis-Chalmers general machinery division, according to an announcement by J. L. Singleton, general machinery division vice president.

Since 1947, Mr. Wallace has been special assistant to G. V. Woody, manager of the company's processing machinery department. He entered Allis-Chalmers employ in 1937 after graduation as a me-

chanical engineer from Alabama Polytechnic Institute.

He was sales representative in the Denver and Pittsburgh district offices before entering the processing machinery department. In 1931 he received a master's degree in business and engineering administration from Massachusetts Institute of Technology following a year of study under a Sloan fellowship.

Announcement is also made of the appointment of Elvin R. Danielson as supervisor of priorities succeeding the late Robert T. Ward. Mr. Danielson in his new post reports to Wallace.

New Fork Lift Device Announced for Moto-Bug Machine

Development of a five-foot power driven fork lift attachment for the versatile Moto-Bug has been announced by Kwik-Mix Co. of Port Washington, Wis. The new materials handling device has a capacity rating of 1000-pounds at 15-inch load center. In addition, it can climb a 12-per cent grade with full load and has a 61-inch turning radius. Kwik-Mix is a subsidiary of the Koehring Company of Milwaukee.

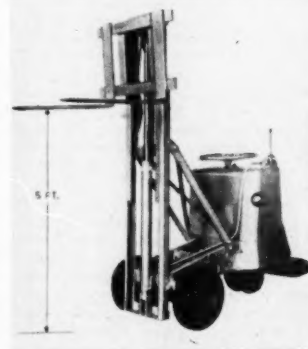
Designed to answer special handling problems in shipping centers, industrial plants and in many phases of construction work, the new 5-foot fork lift unit operates from a power driven hydraulic pump. For effortless maneuvering, operator rides on rear step, has full power forward and reverse.

A large steering wheel is connected directly to the dual rear wheel through a 3.6 to 1 gear reduction. Moto-Bug's 33-inch width easily clears narrow aisles and doorways. Standard forks are 20-inches long and adjust to any required width up to maximum 33-inches.

Equipped with a standard make 6 h.p. gasoline engine, power is transmitted by V-belt and roller chain through an automotive type differential in the front axle for reliable 2-wheel drive. Because the complete unit weighs only 1,500-pounds, the fork lift Moto-Bug can work with safety over old floors, in elevators and air cargo planes, or on light ramps.

The fork lift unit is easily interchanged with other front end attachments to make the Moto-Bug an all-purpose performer wherever materials are loaded, lifted or moved. Alternate attachments include: a 1,500-pound capacity flatbed platform, a 10-cubic foot capacity hopper body or a 5-foot scraper blade. Descriptive literature and detailed specifications may be obtained by

Fork Lift Attachment for Moto-Bug.



contacting any Kwik-Mix distributor or by writing direct to the manufacturer at Port Washington, Wisconsin.

Research Division Now Directs Allis-Chalmers Projects

All research projects for the general machinery and tractor divisions of Allis-Chalmers Manufacturing Co. are under the direction of the research division, which is also co-ordinating all research work in the company's branch plants, according to Dr. Harry K. Ihrig, vice president in charge of research.

Assistant to Dr. Ihrig in charge of administrative duties, personnel and liaison for the entire division is J. T. Jarman, who is also supervising the physical testing and heat treating sections.

A. K. Higgins and Will Mitchell, Jr. are assistant directors of research. The former is in charge of the metallurgical, chemical, melting, precision casting sections, and the physics laboratories. Mitchell is in charge of the process, airflow, pump, blower and condenser laboratories.

Mr. Jarman has been with Allis-Chalmers since 1924. He was successively chief metallurgist and chemist, and general superintendent of the chemical and metallurgical department before assuming his present post.

Mr. Higgins came to Allis-Chalmers in 1937 from Globe-Union Incorporated, where he was a research metallurgist. Previously he had been employed as a chemist by the American Smelting & Refining Co.

Mr. Mitchell joined Allis-Chalmers in 1947 as director of the basic industries research and testing laboratory, now part of the research division. He taught chemistry at Montana School of Mines, was assistant ventilation engineer at the Puget Sound Navy Yard, an assistant mining engineer for Anaconda Copper Mining Company, and an instructor in mineral dressing at Lafayette College.

Allis-Chalmers Distributes 60-Page Maintenance, Construction Manual

A new 60-page manual published by Allis-Chalmers West Allis Works Safety Council has been distributed to all company supervisors and people concerned with safe and correct work practices in the maintenance and construction fields.

Contents of the booklet contain a description of general standards, general rules for overhead work and excavations, safety rules for millwright and machine repair work, for electrical maintenance, and for plumbing and steamfitting, along with rules for outside contractors. These standard operating procedures are the result of regulations or rules developed over a period of years at Allis-Chalmers.

Copies of the maintenance and construction manual, 25E7524, are available on request from the company's health and safety department.

Hewitt-Robins Forms South Central Division

Formation of a new South Central sales division of Hewitt-Robins Inc., was announced by L. D. Bigelow, vice president in charge of H-R's Central sales division at Chicago.

L. C. Holloman has been appointed assistant division manager in charge of the newly created division, which covers Texas, West Tennessee, Oklahoma, Arkansas, Louisiana, Mississippi and Alabama, with headquarters at Houston, Texas.

Hartzell Named Sales Manager of Koppers Division

John A. Hartzell has been promoted to the position of sales manager, Engineering and Construction division of Koppers Company, Inc. It has been announced by Joseph Becker, vice president and general manager.

Mr. Hartzell, who started work with Koppers in 1922 as a draftsman, succeeds Ward L. Gable, who has retired but will remain with Koppers as a special sales consultant. Mr. Gable is widely known to top executives in the steel industry with whom he has dealt for many years. He joined Koppers in 1916 after working for one of the major steel companies and was made sales manager of the Division in 1941.

Mr. Hartzell is a native of Alliance, Ohio and attended Mt. Union College. With Koppers he has been a draftsman, engineering section head, plant operator, a contract engineer and a sales engineer. For the past five months he has been assistant sales manager of the Division.

Mr. Becker also announced the appointment of C. W. Mohme as assistant to the production manager, C. K. Waibel as a sales engineer and C. E. Mielke and H. A. Grosick as contract engineers.

Huber Names Distributor in Albany, New York

Huber Manufacturing Co. has announced appointment of R. B. Wing & Son Corp. as distributor of its road maintenance equipment in the Albany area of New York.

The firm's offices are located at 384 Broadway in Albany. Charles C. Wing is president and H. P. Shollenberger is vice president. Sales representatives include Albert Houck, Ray B. Butts, Howard Nicks and Claude Reynolds.

Wing & Son will handle the sale of Huber graders, tandem and 3-wheel rollers, and the 42½-H.P. Huber Maintainer—light grader known as "Nine Maintenance Machines in One" because of its various attachments.

Belt Company Improves Idler Lubrication

The first basic improvement in years in belt conveyor idlers greasing design is announced by Chain Belt Co. of Milwaukee. Rigid steel grease piping has been replaced by reinforced flexible automotive type grease tubing, which will take higher gun pressures, and will not be broken off in shipment.

The flexible sections are made in lengths which allow them to "hug" the inside of the inverted angle or channel base. Grease tube extension to the far side is accomplished by threading a flexible section through the base to the grease fitting at the near side.

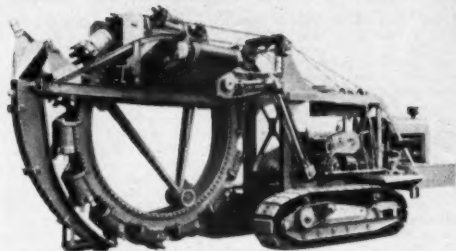
New, also, is the location of the grease fittings. They are placed so as to be more accessible, permitting safe servicing at any time . . . and are protected during shipment by the idler base.

The new design eliminates the headache of broken grease lines, and will be welcomed by maintenance men. The picture illustrates simplicity of the new design—now standard on Rex Roller Bearing Belt Conveyor Idlers. For further information on this design improvement, write Chain Belt Company, 1600 W. Bruce Street, Department PR, Milwaukee 4, Wisconsin.

C. D. King Promoted

Appointment of C. D. King as assistant vice president and chairman—engineering committees, United States Steel Co., has been announced by John L. Young, vice president—engineering.

Mr. King is the author of numerous



New Wheel-Type Trencher

articles dealing with the steel industry. In 1945 he was awarded the Robert W. Hunt Gold Medal by the American Institute of Mining and Metallurgical Engineers for his work in blast furnace practices. He has also served on various missions to Brazil and Europe in connection with steel production in those areas.

Mr. King is a member of the American Iron and Steel Institute, the American Institute of Mining and Metallurgical Engineers, the Association of Iron and Steel Engineers, and the Iron and Steel Institute of Great Britain.

Ceremony Sends 14,000th P&H Crane to Pontiac

A small wave of excitement swept through the Milwaukee shops of Harnischfeger Corp. as workmen bolted the familiar P&H name plate onto a big, heavy duty overhead crane. It was the fourteen thousandth heavy duty crane P&H has built since 1889, when its first three motored electric model revolutionized industrial materials handling. It went to the Pontiac Motor Division of General Motors.

Pointing at P&H Heavy Duty Overhead Crane, Serial Number 14,000B, in the accompanying picture, is Pontiac Plant Engineer T. W. Bradford, who came to Milwaukee for the dedication ceremonies. Looking proudly on are two Harnischfeger officials. At the left, Vice President Henry Harnischfeger, and at the right, Vice President in charge of Manufacturing, Henry Menck. Accompanying Mr. Bradford to Milwaukee, but not shown in the photograph, were Pontiac Purchasing Agent, M. F. Rummel, and Buyer, M. S. S. Danton. Harnischfeger is the country's leading builder of industrial cranes, having produced some 18,000 overhead cranes, including heavy duty types as well as over 4,000 of the Trav-Lift type for intermediate service.

Parsons Announces Two Wheel-Type Trenchers

With extensive field tests completed, Parsons Company, of Newton, Iowa, has started full scale production on two new models of Trenchers. Both are full crawler-mounted, wheel-type machines. Model 202 is designed primarily for drainage and utility trenching. Model 215 is a special pipeline Trencher.

With a choice of either 52 horsepower gasoline or 55 horsepower Diesel engine, the Model 202 is equipped to dig in 30 separate feeds from 6.2 inches to 18.5 feet per minute; and in nine widths from 13 to 31 inches wide and up to 6 feet deep. Other features include: friction clutch control of digging wheel, easily changed bucket-fronts with cutting lips or "Tap-In" teeth, shiftable and reversible belt conveyor for discharging spoil on either side of machine.

Full crawler mounted, with either 16 or 20 inch treads, the Model 202 Trencher has only five to six pounds per square inch ground bearing pressure. This is particularly important on drainage, irrigation, municipal and utility-type projects for which the machine is particularly designed. For laying drainage tile, a special box and chute are available as optional equipment.

Parsons companion Model 215 has several outstanding features designed for "mile-a-day" production on cross-country pipeline installations: six digging wheel speeds up to 11.2 r.p.m., standard-make tractor type crawlers with lug-type shoes, 18 inch treads, and choice of two standard-make 55-horsepower Diesel engines.

Additional information and specifications on both new models may be obtained by contacting any Parsons Trencher distributor, or by writing direct to the Parsons Company, at Newton, Iowa. Parsons is a subsidiary of the Koehring Company, Milwaukee, 16, Wis.

Ceremonies marking production of fourteen thousandth P. & H. Crane.



Detroit Diesel Used on 24,000-Foot Sewer Tunnel Project

When progress on a 24,000 foot sewer tunnel in Saginaw, Michigan was threatened recently by a shortage of clay miners, the contractor on the job designed two tunneling machines to help with the mining and completed the project four months ahead of schedule.

The contractor was the Michigan Sewer Construction Co. of Detroit and the machines were built completely in the company's own shop.

Fortunately the path of the tunnel lay through a clay formation where, in the opinion of Kent C. McIntyre, General Manager of the company, a simple wheel type machine would be practical. Producing such a machine for use in a tunnel with a bore of only eight feet, four

tor, a three cylinder General Motors Series 71 Diesel, ran at a speed high enough to be direct connected to the high speed generator. This eliminated the need for a gear box and, of course, saved the company considerable time and expense in effecting the installation.

The single engine and generator produced sufficient power to operate both tunneling machines. In fact, there was sufficient reserve power to run a hoist at the shaft opening should the crane normally used to lift the mined material out of the tunnel be needed elsewhere. The small amount of fuel used by the engine was also an important factor in keeping operating costs at a minimum.

Recapping the advantages of using the machines on this project, company officials cited their more constant production which resulted in the job's early completion; lower costs; fewer manpower problems and a comparatively low investment which was possible because most of the machine parts went back to work on other equipment when the job was done.

New Link-Belt Book on Oscillating Conveyors

A new 24-page illustrated Book No. 2444 on positive action oscillating conveyors for conveying, feeding, cooling, screening a great variety of loose bulk materials, is announced by Link-Belt Co., 307 N. Michigan Avenue, Chicago.

The book includes dimensions, weights, and capacity and horsepower charts on Torsion mount oscillators for heavy duty as well as for the recently announced Flexmount oscillator for the lighter-duty applications.

In these machines, a clear, continuous, one-piece metal trough mounted on resilient supports is given an upward and forward oscillating motion by a constant-stroke eccentric drive, thus providing a powerful, yet gentle action that moves large volumes of material ahead in a uniform, continuous flow.

The book shows the handling of shake-out sand, food products, cement clinker, metal chips, hot mineral sands, hot castings, silicon carbide and cullet. Among other bulk materials listed are coal, ores, chemicals, wood chips, etc.

The trough widths of standard conveyors range from 8 to 48 inches and the handling capacities range from a few pounds to several hundred tons per hour.

Named Assistant Manager

Nelson W. Dempsey, general superintendent of American Steel & Wire's Cuyahoga Works, Cleveland, has been appointed assistant manager of operations of the Chicago district of this division of U. S. Steel Co., it has been announced by John R. Gaut, Chicago district manager.

Mr. Dempsey, 57, has been general superintendent of Cuyahoga Works since September, 1950, having left a similar post at the Wire Division's Waukegan (Ill.) plant.

A native of Stoneham, Massachusetts, he received his high school education there before attending Tufts College in Medford, Mass., where he was graduated with a degree in chemistry. He joined the Wire Division's Worcester (Mass.) Works metallurgical laboratory in 1917. Shortly after, he entered the Army and returned to American Steel & Wire in 1919.

Further promotions led him to the post of assistant to the superintendent of the Worcester North Works in 1943. In 1944 he became assistant superintendent of the Waukegan (Ill.) wire division and later that year division superintendent of the wire mill. He was named general superintendent of Waukegan Works in 1947.

Koppers Company Revenue Amounts to \$288,828,815

Last year's sales and other receipts of Koppers Company, Inc., amounted to \$288,828,815, this exceeding by \$66,768,505 the previous high of \$222,060,310 achieved in the second world war year of 1943.

Net income totaled \$10,818,217, which after provision for payment of preferred stock dividends, was equivalent to \$6.32 per share on the 1,617,123 outstanding shares of common stock.

Special non-recurring gains of \$5,990,884 brought overall earnings on common stock up to \$10.02. These special gains were from sale of the Granite City blast furnace and coke oven plant and of common stock of Eastern Gas and Fuel Associates. The proceeds are being reinvested in Koppers' six operating divisions, principally in the chemical field for the Chemical and Tar Products division.

Federal income tax accruals for 1951 totaled \$18,485,000, as compared with the \$10,350,000 for 1950. Other income tax provisions amounted to \$1,678,709. The total of all taxes paid by the Koppers Company for 1951 amounted to \$23,544,017, which was equivalent to \$14.56 per share of common stock.

Net working capital of the company at the close of 1951 was listed at \$63,320,332, as compared with the \$49,455,605 figure at the end of 1950.

Ownership of U. S. Government short-term securities increased during the year from \$10,000,000 to \$17,000,000, principal amount. It has been the policy of the company to purchase such securities in amounts to cover a substantial part of its tax liability.

The company's funded debt due after one year amounted to \$26,868,519 compared with the \$25,914,800 at the end of 1950, the increase being principally due to purchase obligations for tank cars.

1951 a Good Year for Oliver Corporation

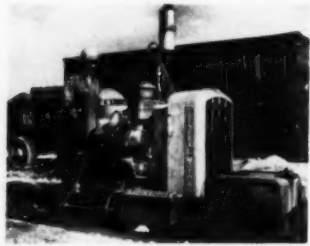
Nineteen fifty one was a good year for the Oliver Corp., according to its annual report which reveals sales and other income (this \$588,505) totaling \$120,112,844, an increase of \$20,688,002 or twenty-one per cent over sales for the preceding year.

The rise resulted mostly from strong demand for the company's products and from greater production of crawler tractors at the Cleveland plant. Shipments of defense products accounted for about one per cent of the 1951 sales. Such shipments are expected to constitute a much greater part of the production in 1952 and 1953.

Net earnings for the fiscal year of 1951 amounted to \$6,005,980, or \$7.01 per share of outstanding common stock, after provision of \$5,600,000 income taxes. Earnings reflect the effect of adoption of a last-in, first-out method of valuing inventories in 1951. The change resulted in a reduction of \$3,065,000 in inventory values as of October 31.

Regular dividends, totaling \$368,510 were declared on the preferred stock. Dividends of \$2.40 per share amounted to \$1,929,482 on common stock.

Net working on October 31 was \$50,669,581. The \$75,422,756 gross figure embraced \$5,548,639 in cash and government securities, \$18,165,320 for receivables and \$51,708,797 in inventories. Deductions were \$19,853,175 in accounts payable and accrued items and \$5,500,000 in short-term bank loans.



Mining machines were powered by a single generator set above ground. It embraced a high speed diesel engine directly connected to the generator Box, thus eliminating the need for a gear box.

inches presented some difficult problems, but these were finally worked out successfully by McIntyre and his equipment superintendent, Loren F. Scott.

A small high speed Diesel engine previously purchased to repower a shovel was diverted to the sewer job and connected to a high speed AC generator. Two four-spoke wheels with three-inch cutter teeth on each spoke were fabricated with little difficulty. The cutter teeth were arranged so that they formed a solid cutting front when the wheel was turned.

The going got tougher, however, when McIntyre and Scott cast about for electric motors to turn the cutter wheels. The problem here was to obtain motors small enough to operate in the space available in the tunnel and yet powerful enough to start up under full load.

Full load starting was necessary because the cutter teeth had to be immersed constantly in the clay once the wheel was started. Another motor was needed on each machine to operate the conveyor belt which moved the clay droppings back to waiting cars. A little research uncovered satisfactory high torque motors of proper size and with all the equipment needed now assembled the machines were ready to operate.

The machines were set to work in opposite headings in the tunnel with the Diesel-powered generator stationed on the surface near a centralized shaft opening. The tunnel advanced one to three inches at the turn of each wheel. Progress was such that the cutters needed only one third of the time required by hand diggers to mine an equal distance.

It was impossible to utilize the full mining potential of the machines because the small bore of the tunnel allowed only a single track railroad to transport the dug material back to the shaft. The job was accelerated, however, because highly skilled clay miners were not required to operate the machines and they could, therefore, be used steadily in addition to headings operated by ordinary hand methods.

The engine used to drive the genera-

There's no "Cure-All"

IN MEDICINE...

OR CEMENT!

For many years now air entraining cement has been helping American contractors solve many a baffling concrete problem. It has done such a good job that it is looked upon by a great many people as a "cure-all." Such is definitely *not* the case. There is one major factor that every user should consider before mixing air entrained concrete.

You see, air entraining cement is a product that's standardized by federal and A.S.T.M. specifications. When mixed with local materials it forms concrete which entrains varying amounts of air, depending upon such variables as grading, size and type of aggregate, or consistency of the mixture, among many others.

To avoid the unsatisfactory result of too much or too little air in the concrete, follow the "prescription" method . . . mix your own air entraining concrete with regular portland cement and any well-known air entraining agent in proportions designed to fit the circumstances. Only when you are *sure* that local ingredients and conditions will produce the *right* air content should you depend upon an air entraining cement. And that's the time to remember that there's none better than Hermitage Air Entraining Cement.

★ ★ ★

If you have any problems or questions on the use and mixing of air entrained concrete, the Hermitage Service Engineer will be glad to help and advise you.



Adjacent sections of the same street. Note deterioration resulting from incorrect air entrainment at left.



Hermitage Portland Cement Company

American Trust Building, Nashville 3, Tenn.

Portland • High Early Strength • Air Entraining • Masonry

Key Universal Group Hold Management Meet



Harry T. Leuliette, left, vice president and co-founder of Universal Concrete Pipe Co., holds silver mixing bowl received from H. C. Eschenbrenner, president and founder of the company.

More than eighty key personnel met at Columbus, Ohio, recently for the largest management conference in Universal Concrete Pipe Co. history.

With President H. X. Eschenbrenner and Vice President Hector E. Eschenbrenner, Jr., in charge, executives from Universal's network of twenty-three plants in ten states reviewed all angles of the business.

Reports showed Universal enjoyed its greatest sales year in 1951, with prospects for 1952 bright, despite restrictions and controls.

Out-of-town speakers at the conference included C. M. Howard, engineer-manager of the Concrete Products Association at Seattle; Joseph Miller, president of the Lewistown Pipe Co., Chicago and M. W. Loving, consulting concrete specialist from Glenview, Ill.

Production and sales problems were discussed by H. E. Eschenbrenner, Jr.; Thomas H. Monaghan, sales manager; J. C. Merritt, treasurer; Walden Wren, engineer; Willard Handley, machine division; George Grimes, purchasing agent and Joseph M. Millious, advertising director.

A special banquet was held to honor senior employees. Mr. Eschenbrenner, Sr., who is recovering from a serious illness, made the presentations and received a special diamond pin to commemorate his founding of the firm 30 years ago.

Koppers Embarks On Enlarged Research

Koppers Company, Inc., will embark on an enlarged and more unified program of research, with a major portion of such work centered at Verona, Pa., where new laboratories are now nearing completion.

General Brehon Somervell, president, recently said that the Company has purchased a plant site it formerly leased at Verona, re-arranged its buildings and added a new building, which will contain administrative offices, the Company's Research library and conference rooms. Dr. G. F. D'Alelio, Vice President and Manager of Koppers Company Research Department, revealed some of the plans for the new research center.

"Within a few months, a major por-

tion of our research will be centered at Verona," he said, "and by 1953 we may have nearly 200 chemists, physicists, engineers and technicians working there. Considerable new equipment is being installed in the laboratories and they will be modern in every way."

Dr. D'Alelio explained that the new Verona center not only will provide enlarged and improved laboratory facilities but is designed to allow extensive pilot plant work to be carried on. One large area will be devoted to pilot plant work in chemicals, another in fuels and a third in the testing and improving of large machinery which the Company makes, such as electronic precipitators.

In these pilot plant areas, as many as ten miniature industrial plants may be in operation at the same time. One such plant, now planned, will make gasoline and oil from coal through the process known as hydrogenation, the Koppers research manager said. Koppers Engineering and Construction Division built a coal-to-oil demonstration plant at Louisiana, Mo., for the U. S. Bureau of Mines. While this plant gasifies coal and turns the gas into liquid fuels, the hydrogenation method uses powdered coal in a slurry as raw material. Gasoline with higher octane rating can be produced by the hydrogenation method.

Equipment of the experiment station which has been conducted by the Research Department, at Kearny, N. J., has been moved to Verona.

Allis-Chalmers Releases Centrifugal Pump Instructions

An instruction booklet covering the installation, operation and repair of single-stage, double-suction Allis-Chalmers centrifugal pumps has been released by the company.

The booklet recommends that a regular inspection be followed and includes a maintenance timetable which is based on continuous pump operation and which serves as a reliable pattern for all practical purposes.

One page of the booklet is for use as a permanent record of the operator's pump and of its performance. It is so arranged as to enable the operator of the pump to see at a glance the life of any parts replaced and any improvement due to substitute materials.

The booklet also carries a check reference guide which lists 40 possible causes of trouble in pump operation and their cures.

Copies of the booklet, 08X7613 are available upon request from Allis-Chalmers Manufacturing Company, 1083 S. 70th Street, Milwaukee, Wis.

Rust Appoints G. L. Jordy Chimney Division Head

George L. Jordy has been appointed manager, Chimney Division, of the Rust Engineering Co. according to an announcement by S. M. Rust, Jr., company president.

Formerly assistant manager of the division, Mr. Jordy succeeds Eric Plagwitz who was elevated to the newly created position of special representative and chimney consultant.

Mr. Plagwitz, recognized as the dean of chimney engineers throughout the country, has been with Rust since 1924. He will continue to have his headquarters in Pittsburgh.

Mr. Jordy, better known as "Doc" to the industry, joined Rust in 1925. He is a graduate of Carnegie Institute of Technology and a veteran of World War I. In World War II, he received an effective service citation from the War Department for his work in connection with the Manhattan District atomic bomb project. Design and construction of the project's 17 chimneys being accomplished ahead of schedule without a lost time accident under his direction.

See Your FOOTE SALES AGENTS

—for MultiFoote
and

Adnun Pavers

MATT A. DOETSCH
MACHINERY CO.

Washington, D. C.

GILL EQUIPMENT
COMPANY

Atlanta, Ga.

INTERSTATE
EQUIPMENT CO.

Statesville, N. C.

G. C. PHILLIPS
TRACTOR CO.

Birmingham, Ala.

SOUTHERN
EQUIPMENT SALES CO.

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SQUARE DEAL MACHY.
& SUPPLY

Orlando, Fla.

SOUTHERN STATES
EQUIPMENT

New Orleans, La.

WEST VA. TRACTOR
& EQUIPMENT

Charleston, W. Va.

—for Adnun
Black Top Pavers

MARTIN MACHINERY
& SUPPLY CO.

Knoxville & Chattanooga,
Tenn.

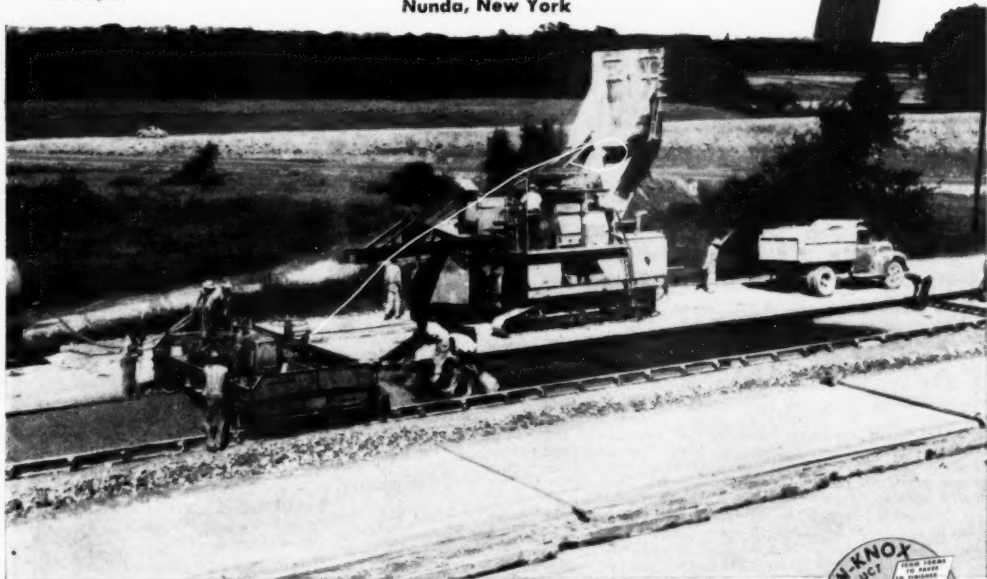
These Advantages Establish Paving Records!

THREE sizes to choose from for your particular problem—from the 27-E (ideal for general construction work with the HighLift Boom) to the 34-E DuoMix for the heavy road job.

- Greater simplicity of design—one main shaft, everything in units and easily get-at-able—you don't have to be a mountain goat to take care of a MultiFoote.
- All high-speed shafts on anti-friction bearings sealed against dirt.
- More engine power.
- A simple, direct, fast skip hoist—less cable wear, easy to reeve.
- Skip "A" Frame easily lowered by power, reduces skip hoist power required, reduces cable tension, lengthens skip hoist cable life and reduces wear on skip shaft bearings.
- Double Cone Drum does not build up in the corners, reduces time required for cleaning.
- Helical Gear Drive built as a separate unit. The finest speed reducer on any paver.
- Crawlers with real self-cleaning action, no pockets to fill, no U bolts or overhanging axles to give trouble.
- Mechanical control for either manual or automatic cycle—positive in action and free from delicate mechanisms. Your paver can't be shut down because of control failure.
- The HighLift Boom—an asset that puts concrete 23 feet up (higher with special booms) allows you to pour wall without ramps, false work or hoisting equipment. Can be raised or lowered without rereveing cable.
- Other advantages that mean low cost operation and higher output.

Williams Paving Co., of Norfolk, Va., establishing a record of a mile of 9 in. 12 ft. lane in 13 hours on the eastern extension of the Turnpike.

THE FOOTE COMPANY, INC.
Subsidiary of Blaw-Knox Co.
Nunda, New York



MULTIFOOTE PAVER

FOR EVERY PLACE CONCRETE MUST BE POURED



Missouri Makes Awards for \$3,800,000 Road Contracts

Missouri last month received bids approximating \$3,805,500 for projects on its state highway system. Awards were made for all but three contracts. By counties, the contracts include the following:

Buchanan County—Route 36, Project Sec. 2-C, 4.678 miles widening and asphaltic concrete pavement 22 feet wide, Land Construction Co., St. Joseph, Mo., \$157,238.10, Alt. 1;

Buchanan County—Route 36, Project Sec. 3-B, 4.543 miles widening and asphaltic concrete pavement 22 feet wide, Land Construction Co., St. Joseph, Mo., \$140,935.50, Alt. 1;

DeKalb County—Route 36, Project Sec. 5, 4.697 miles widening and asphaltic concrete pavement 22 feet wide, Land Construction Company, St. Joseph, Mo., \$147,149.50, Alt. 1;

DeKalb County—Route 36, Project Sec. 6, 4.826 miles widening and asphaltic concrete pavement 22 feet wide, Land Construction Co., St. Joseph, Mo., \$153,312.80;

DeKalb County—Route 169, Project Sec. 1-B, 3.567 miles widening and asphaltic concrete pavement 22 feet wide, Land Construction Co., St. Joseph, Mo., \$122,976.90, Alt. 1;

Harrison County—Route SC, Project S-962 (1), 4.476 miles grading, constructing culverts and a gravel or crushed stone surfacing, Krehbiel-Stalker Construction Co., Columbia, Mo., \$37,276.50;

Charlton County—Route SB(129), Project Sec. 1-C, 2.615 miles constructing a stabilized aggregate base 24 feet wide and seal coat 20 feet wide, Howard Construction Company, Sedalia, Mo., \$31,716.20;

Charlton County—Route SB(129), Project Sec. 2-C, 3.841 miles constructing a stabilized aggregate base 24 feet wide and seal coat 20 feet wide, Howard Construction Co., Sedalia, Mo., \$46,393.20;

Charlton County—Route SZ, Project Sec. S-919(1)a, 3.545 miles grading and constructing culverts; Quinn Construction Co., Salisbury, Mo., \$14,809.00;

Macon County—Route 36, Project Sec. 48-B, 4.775 miles widening and asphaltic concrete pavement 22 feet wide, Bridges

Paving Co., St. Louis, Mo., \$144,898.30, Alt. 1;

Macon County—Route 36, Project Sec. 49-B, 4.574 miles widening and asphaltic concrete pavement 22 feet wide, Bridges Paving Co., St. Louis, Mo., \$136,360.60, Alt. 1;

Mercer County—Route SP, Project Sec. S-1193(1)a-A, 2.371 miles graded earth, culverts and a bridge, Clark and Farmer Contracting Co., Camden, Mo., \$25,537.70;

Mercer County—Route SP, Project Sec. S-1193(1)a-B, 3.156 miles graded earth and culverts, Clark and Farmer Contracting Co., Camden, Mo., \$25,691.60;

Scotland County—Route SW, Project Sec. S-1021(1)-A, 0.133 mile graded earth, culverts and gravel or crushed stone surface, Everett R. Elsea, Kirksville, Mo., \$4,810.50;

Scotland County—Route SM, Project Sec. S-1021(1)-B, 0.322 miles graded earth, culverts, a bridge and gravel or crushed stone surface, Everett R. Elsea, Kirksville, Mo., \$13,261.50;

Scotland County—Route SA, Project Sec. S-950(2), 2.624 miles graded earth, culverts and gravel or crushed stone surface, Everett R. Elsea, Kirksville, Mo., \$17,917.80;

Jackson County—Route 40, Project Sec. 3-A, 0.747 mile widening and asphaltic concrete pavement 22 feet wide, Midwest PreCote Co., Kansas City, Mo., \$25,890.80, Alt. 1;

Jackson County—Route 40, Project Sec. 4-A, 1.651 miles widening and asphaltic concrete pavement 22 feet wide, Midwest PreCote Co., Kansas City, Mo., \$58,622.45, Alt. 1;

Jackson County—Route 40, Project Sec. 5-A, 3.530 miles widening and asphaltic concrete pavement 22 feet wide, Midwest PreCote Co., Kansas City, Mo., \$128,725.30;

Callaway County—Route 54, Project Sec. 43-A, 3.198 miles widening and asphaltic concrete pavement 24 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$129,029.35, Alt. 1;

Callaway County—Route 54, Project Sec. 44-A, 3.194 miles widening and asphaltic concrete pavement 24 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$125,122.55, Alt. 1;

Callaway County—Route 54, Project Sec. 45, 4.279 miles widening and asphaltic concrete pavement 24 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$166,223.05, Alt. 1;

Cooper County—Route SB, Project Sec. S-95(3), 3.867 miles grading, constructing culverts and a gravel or crushed stone surface, Davis Construction Co., Boonville, Mo., \$34,432.25;

Montgomery County—Route 40, Project Sec. 54-A, 2.551 miles constructing asphaltic concrete pavement 22 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$47,106;

Montgomery County—Route 40, Project Sec. 55-A, 3.538 miles constructing asphaltic concrete pavement 22 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$65,439.50;

Montgomery County—Route 19, Project Sec. 4-A, 4.468 miles widening and asphaltic concrete pavement 22 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$126,155.80, Alt. 1;

Montgomery County—Route 19, Project Sec. 5-A, 4.280 miles widening and asphaltic concrete pavement 22 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$124,458.20, Alt. 1;

Montgomery County—Route 19, Project Sec. 6-B, 3.164 miles widening and asphaltic concrete pavement 22 feet wide, Trinidad Asphalt Manufacturing Co., St. Louis, Mo., \$92,855.40, Alt. 1;

Jefferson County—Route 21TR, Project Sec. 58-B, 4.880 miles constructing asphaltic concrete pavement 22 feet wide, O'Dell & Riney Construction Co., Kirkswood, Mo., \$92,279.10;

Jefferson County—Route 21TR, Project Sec. 59-B, 4.879 miles constructing asphaltic concrete pavement 22 feet wide, O'Dell & Riney Construction Co., Kirkswood, Mo., \$91,595.90;

Jefferson County—Route 21TR, Project Sec. 60, 2.509 miles constructing asphaltic concrete pavement 22 feet wide, O'Dell & Riney Construction Co., Kirkswood, Mo., \$47,173.20;

Jefferson County—Route 110, Project Sec. 59-B, 2.260 miles constructing asphaltic concrete pavement 22 feet wide, O'Dell & Riney Construction Co., Kirkswood, Mo., \$42,414.80;

Jasper County—Route SW(71), Project Sec. 1-B, 3.914 miles widening and asphaltic concrete pavement 24 feet wide, Masters-Jackson Paving Co., Springfield, Mo., \$133,338.30, Alt. 2;

Jasper County—Route SV(166), Project Sec. 1-A, 4.006 miles widening and asphaltic concrete pavement 24 feet wide, Masters-Jackson Paving Co., Springfield, Mo., \$80,737.70, Alt. 2;

Jasper County—Route 166 AP, Project Sec. 1-A, 4.765 miles widening and asphaltic concrete pavement 24 feet wide, Masters-Jackson Paving Co., Springfield, Mo., \$186,072.50, Alt. 2;

Jasper County—Route 166 AP, Project Sec. 2-A, 513 miles widening and asphaltic concrete pavement 24 feet wide, Masters-Jackson Paving Co., Springfield,

Caterpillar Tractor Reveals Net Sales of \$393,756,098

Sales were higher but profits lower in 1951, according to the annual report of the Caterpillar Tractor Co., which shows sales of \$393,756,098 represented a rise of seventeen per cent when compared with the preceding year, but that the \$15,732,141 profit was forty-six per cent lower than the record high of 1950.

Higher prices and increased shipments of replacement parts and of engines, particularly of the new models which have been well accepted for higher horsepower applications were given as contributing factors to the larger sales volume.

Profit per dollar of sales was shown at \$4.00 in 1951, as compared with \$8.68 in 1950. Profit per share of common stock, based on 3,764,480 shares outstanding before acquisition of the Trackson Co., was \$3.90 in 1951, \$7.49 in 1950.

Dividends paid on common stock amounted to \$11,293,440 in 1951; \$8,470,080 in 1950, or on a per share basis, \$3.00 in 1951 and \$2.25 in 1950. Dividends on preferred stock totaled \$1,044,750 at the full rate of \$1.05 per share each quarter.

Rates of federal income taxes were higher in 1951, the report observes. The normal tax and surtax effective April 1 were fifty-two per cent of corporate income, compared with forty-two per cent in 1950. Excess profits tax in 1951 was thirty per cent in excess of "normal" income of approximately \$30,000,000 (excess profits tax credit). All profits above the "normal" were taxed at the rate of eighty-two per cent, leaving only the remaining eighteen per cent for company purposes.

Net current assets at December 31 were \$72,750,845, as compared with the \$86,667,357 on the same day of 1950. This represents a decrease of \$13,916,512. Expenditures for land, buildings, machinery and equipment account for the reduction.

The ratio of current assets to current liabilities was adversely affected by the strike, which closed the company's main plant in Peoria from July 30 to September 30, stopped all shipments there and caused a loss of sales in excess of \$70,000,000 and a substantial loss of profit.

Mo., \$21,434.60, Alt. 2;

St. Clair County — Route SJ, Project Sec. S-1012(1)-A, 3,390 miles graded earth, culverts, and a bridge and gravel or crushed stone surfacing, Joseph L. Pohl, Contractor, Nevada, Mo., \$77,176.95;

St. Clair County — Route SJ, Project Sec. S-1012(1)-B, 2,589 miles graded earth, culverts, and gravel or crushed stone surfacing; Joseph L. Pohl, Contractor, Nevada, Mo., \$29,844.35;

Greene County — Route STT, Project Sec. S-727(1), 2,074 miles grading, constructing culverts and a gravel or crushed stone surfacing, George L. Shoffner & Sons, Construction Co., Springfield, Mo., \$17,424.75;

Stoddard County — Route 60, Project Sec. 89-D, 4,512 miles widening and asphaltic concrete pavement 24 feet wide, Granite Bituminous Paving Co., St. Louis, Mo., \$169,471.62, Alt. 2;

Stoddard County — Route 60, Project Sec. 90-A, 2,443 miles widening and asphaltic concrete pavement 24 feet wide, Granite Bituminous Paving Co., St. Louis, Mo., \$105,397.89, Alt. 2;

Division 2, Group 1 (1952), 27,969 miles oil and oil aggregate surface treatment, Joseph L. Pohl, Contractor, Nevada, Mo., \$46,284.56;

Division 5, Group 1 (1952), 46,829 miles oil aggregate surface treatment, St. Joseph Fuel Oil and Manufacturing Co., St. Joseph, Mo., \$36,509.21;

Division 7, Group 1 (1952), 38,458 miles oil aggregate surface treatment, Joseph L. Pohl, Contractor, Nevada, Mo., \$38,745.90;

Division 8, Group 1 (1952), 52,929 miles oil aggregate surface treatment, Joseph L. Pohl, Contractor, Nevada, Mo., \$52,490.25;

Division 9, Group 1 (1952), 32,385 miles oil aggregate surface treatment, Vance Brothers, Kansas City, Mo., \$36,957.80;

Wayne County—Route 34, Project Sec. 8-As, furnishing reinforcing steel, B-D-R Engineering Corp., Kansas City, Mo., \$7,269.40;

Cass County—Route SD, Project Sec. S-168(6)s, furnishing reinforcing steel, Carter-Waters Corp., Kansas City, Mo., \$5,716.94;

Jasper County—Route SJ(37), Project Sec. S-341(1)s, furnishing reinforcing steel, Wilmar Steel Products Co., St. Louis, Mo., \$3,364.64;

Bates County—Route 71, Project Sec. 70-Bs, furnishing reinforcing steel, Carter-Waters Corp., Kansas City, Mo., \$1,976.32;

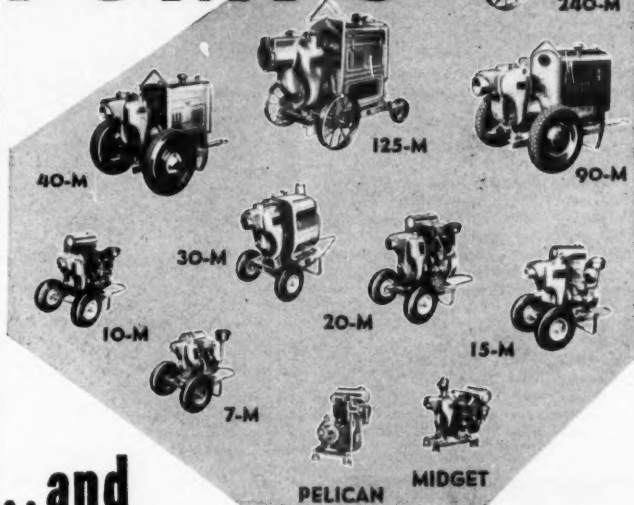
Green County — Route 166TR, Project Sec. F-381(4)s, furnishing reinforcing steel, B-D-R Engineering Corp., Kansas City, Mo., \$12,730.30;

Pemiscot County — Route 61, Project Sec. F1-35(2)s, furnishing reinforcing steel, Wilmar Steel Products Co., St. Louis, Mo., \$5,601.20;

Pemiscot County — Route 61, Project Sec. F1-34(1)s, furnishing reinforcing steel, Wilmar Steel Products Co., St. Louis, Mo., \$3,757.94;

Saline County — Route SAA, Project Sec. S-75(2)s, furnishing reinforcing steel, Wilmar Steel Products Co., St. Louis, Mo., \$2,786.31.

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THE GORMAN-RUPP COMPANY, MANSFIELD, OHIO

Maryland Engineers Hold Convention

(Continued from page 39)

came into existence when the navy department was reorganized in 1842. It then had one civil engineer on duty at the bureau and one at each navy yard. It was not until 1867 that the present corps was organized with a strength of seven officers. By 1915, this number had increased to 30; after World War I, to 110. Under a greatly expanded construction program, the corps had been raised to 10,000 officers by 1945. Today 1,500 civil engineers are on duty.

He outlined development of the naval construction battalions, which grew from zero at the beginning of World War I to 250,000 in 1945. From the initials C. B. came the popular name Seabees. Reason for their success was simple. Building trades mechanics, superintendents and engineers were recruited and "put" to work at jobs they knew how to do.

Balance of the afternoon meeting was taken up by the addresses delivered by Mr. Singstad and Mr. Bonner. Mr. Singstad, who is an internationally famous engineer on tunnel design and construction, talked on methods used in building some of the most famous tunnels and the problems encountered and solved, illustrating his remarks with slides and photographs.

Mr. Bonner said the new \$44,000,000 Chesapeake Bay bridge is one of the largest and is built in a very exposed location with a 40 mile open stretch to the north and 90 miles to the south, where



Above—Top Picture—At the Maryland Engineers' Meeting were Bill Cunningham, of McLean Contracting Co.; John D. Sheetz, of Sheetz Construction Co.; and John Reuwer; Middle Picture—John A. Schmidt, of John C. Louis Co.; W. L. Smith, Bureau of Highways; George Carter, deputy director of public works of Baltimore and Leo Welsh, supervisor of elections. Bottom Picture—Millard F. Hiltner, Bureau of Highways; John J. Pecora, Allied Contractors, Inc.; Frank J. Hellman, Penn-Dixie Cement Co.; William F. Reimann, Bureau of Highways.

winds blow over 40 miles an hour and sometimes at hurricane force. Both the Potomac type piers, which were used on the Morgantown bridge, and the cofferdam piers were illustrated and discussed by the Snare Corporation executive.

He stressed the heavy steel used during construction of the huge and heavy anchorage piers—numbers 23 and 28—and showed color slides and diagrams on how the piers were built, pointing with pride to the accuracy of the pile driving prior to dewatering the heavy steel enclosures for the concreting operations.

Longest piles were over 100 feet and the leads of the driver 102 feet high. Master piles, he said, were 36 inches wide, weighed 300 pounds to the inch and were driven by an S-10 hammer. Corner beams, for instance, weighed 30 tons. A total of 17,000 tons of material, including 10,000 barrels of cement were poured in the seal in five days and one hour on pier 28.

Following the meeting, it was revealed that date of the summer get-together of the Maryland Association of Engineers has been tentatively set for June 13, 14 and 15.

Equipment Dealers Meet

(Continued from page 41)

Engineers. General Pence predicted a military construction program amount-

ing to about \$2,800,000 during fiscal 1952, with a slight increase coming in fiscal 1953. This is, the general said, about the same yearly rate of construction undertaken by the Corps of Engineers during World War II.

About \$165,000,000 worth of new equipment will be needed for Corps of Engineers projects coming up, and most of this would be bought directly from manufacturers because it is to be used for off-shore work. Domestic contracts are being let mostly to contractors who bought their own equipment, and of course, this buying would be done through distributors.

The final speaker was Harold Hess, executive vice-president of CIMA, who expressed the need for publicizing the construction industry, getting across to the public the importance of the manufacturer, the distributor and the contractor.

Pre-Stress Concrete Subject of Lecture Series

A series of lectures on pre-stressed concrete will start March 3 at Remsen Hall, on the campus of Johns Hopkins University, Charles and Thirty-Fourth streets, Baltimore.

Scheduled for successive Mondays and Thursdays in the three weeks ending March 20, the lectures will be delivered by engineers prominent in the field of pre-stressed concrete.

Participating will be the Johns Hopkins University, Vacuum Concrete Co., John A. Roebling's Sons Co., American Steel & Wire Co., the Portland Cement Association and Freyssinet Co.

Subjects to be covered as announced by the University and the Association, sponsors of the course, are:

Fundamentals and Demonstration; Development, Research and Review of European and American Pre-stress Techniques; Analysis and Design of Structural Members;

Material for Tensioning Elements and Modern Techniques;

Requirements and Production of Concrete for Pre-stress Members;

Characteristics and Requirements of Pre-stressing Steel.

The lectures will begin at 8:30 p.m. in Room 1 of the Remsen building.

Baltimore to Repeat School for Highway Personnel

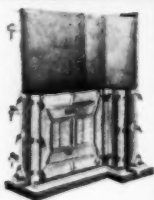
Baltimore will hold its fifth school for highway engineers, superintendents and inspectors February 18, 19 and 20, according to an announcement from the office of James H. McKay, municipal highways engineer.

Thomas J. Gaffney, senior associate engineer, will preside at the sessions on concrete highways and G. V. Walters, general superintendent of the bituminous construction division during the part of the meeting devoted to flexible type paving.

Subjects to be discussed are alley construction, inspectors' problems, the Baltimore-Washington through highway;

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concrete paving, highway design, underground structure protection, inspection from the contractor's viewpoint, asphalt surface treatment, use of tars, bituminous mixture grading, use of the screed and permits and inspections.

Seventh District Announced for Maryland Highways

Establishment of an additional district in the organization of the Maryland State Roads Department has been approved. To be known as District No. 7, it will embrace Carroll, Frederick and Howard counties. These counties were formerly part of districts 3 and 6. Headquarters of the new district will be at Frederick.

Texas City Addition Planned by Carbide Firm

Construction of a major unit for the production of polyethylene resins has just been announced as an addition to the Texas City plant of Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp.

The Certificate of Necessity for this construction has just been granted by the National Production Authority, and appropriate government agencies are now cooperating in getting the other necessary priorities for construction materials and equipment.

With this assistance, construction will begin immediately. The unit is expected to be in production by early 1953.

The production process will involve the direct polymerization of ethylene at high pressure. The resulting "solidified" material will be in the form of whitish, resin granules.

The predicted production of this unit is 50-million pounds a year. It has been estimated, furthermore, that the total U. S. annual production of polyethylene, from Carbide's Texas City and South Charleston plants and from other producers, will be between 100 and 150 million pounds by the end of 1952. It is anticipated that the entire production of the Texas City unit will go into the defense effort. It is also expected that by the end of 1952, the military requirements for applications of extreme urgency will still be in excess of the country's ability to produce polyethylene. These requirements will continue to increase during 1953 if the rearmament program continues at its present rate.

Because of increasing military requirements, the National Production Authority ordered the placing of polyethylene on an allocation basis as a scarce chemical, effective June 1, 1951. It is impossible, therefore, to speculate on what civilian uses of polyethylene can be continued.

The actual new construction planned at Texas City includes three new buildings on an 8-acre plot. The new unit also requires an extensive increase in power, steam, and raw materials at the plant.

The polyethylene resin made in the unit will be further compounded by companies such as Bakelite Company, another Division of Union Carbide and Carbon Corporation.



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Even under ideal conditions $3\frac{1}{4}$ miles of 22" x 40" trench in one day is pretty fair digging for a single trencher. Naturally, CLEVELANDS don't set records like this every day. But even when they are digging only 200 feet per day under adverse soil and project conditions you can be sure that CLEVELANDS are performing just as profitably as George O'Connor's did for him. CLEVELAND's wide range of transmission-controlled combinations of digging wheel and crawler speeds give you the right speed for every job—just one of the many features which make CLEVELANDS preferred by men who base their judgment on proved performance.

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- ✓ WIDE SPEED RANGE ✓ MANEUVERABILITY

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Roadbuilders Hold Houston Meeting

(Continued from page 37)

roadway so-built in that state from 1945 to 1951. Of the total, 4,800,000 square yards were on the state system, 2,200,000 square yards on city and town streets, and 1,100,000 square yards in Baton Rouge.

Mr. Collier went into detail about county road construction with emulsified asphalt, stating "the maximum utilization of local low-cost materials is of primary importance as an approach to the economical construction of county roads." He described a road built back in 1938, another constructed late last year and stressed how one Mississippi county has laid a stretch of asphaltic concrete using regularly employed county labor and country-owned equipment with only one member of the construction crew having previous asphaltic experience.

County Road Conclusions

His conclusions are that local materials should be used to the fullest extent without mechanical processing where possible; design and construction methods should be adapted to equipment available; maximum utilization of unskilled and semi-skilled labor is desirable, and advance planning for improving efficiency, cutting construction time and lowering costs.

District 14 lime stabilization was the subject of Mr. Carter's report. Such stabilization in his district falls in two periods—first, the war period when short,

experimental sections were built by maintenance forces, and second, from that time to the present. Earlier prices indicate a cost of \$.71 for treating a cubic yard, while the later costs indicate \$1.00 per cubic yard of compacted stabilized base.

Conclusions drawn by Mr. Carter are that not all materials react with lime; that lime stabilization requires complete preliminary laboratory study and close control during construction; that part of the cost is in the hydration, separation, sacking and then opening, emptying and disposing of the sacks; some of the older projects treated four inches deep are showing distress.

Welded Wire Fabric Paper

Mr. Carlton's paper revealed that welded wire fabric is used successfully and economically in practically every form of reinforced concrete construction and "with increasing attention being given to crack-control in highway and airport pavement designs, welded wire fabric is fast assuming a leading roll as an ideal type of distributed reinforcing to accomplish this end."

Mr. Oldham in his report on reconstruction of the Lubbock airport with soil cement told how heavy traffic during the war has played havoc with the flexible base runways and surface and that, despite continual and adequate maintenance by the air forces, the runways were in

a critical condition when the field was returned to the city.

He described the studies made, the decision to stabilize with cement, and listed the prices bid for 69,794 square yards of base with cement to a depth of eight inches. Surface removal was set at 8 cents; 8-inch Portland cement stabilized base, 86 cents; 6-inch Portland cement stabilized base, 73 cents; quadruple asphalt surface, 60 cents, and triple asphalt surface, 34 cents.

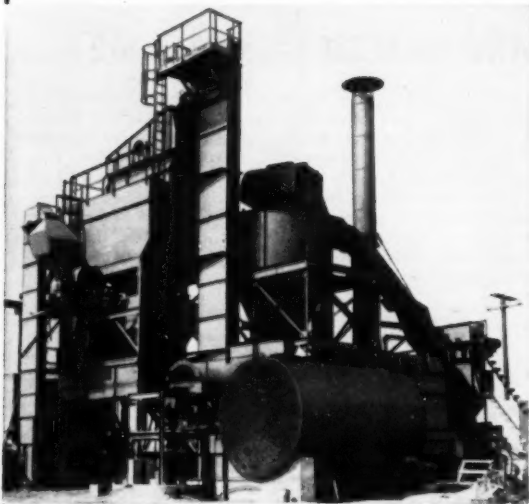
Work Schedule Followed

A working schedule of 5,000 square yards daily was maintained. Stabilization was carried on in a direction parallel with the runway axis a distance of 600 feet at a time, leaving turn-around areas of approximately 50 feet in width between these predetermined sections. By using these turn-arounds, the operating machinery never crossed freshly stabilized material.

It was found advantageous to allow good moisture control to stabilize one-half the 150-foot runway width per day. This was done to place the longitudinal construction joint on the crown point of the runway. A dry run with the P. & H. stabilizer was made transversely across both ends of the day's processing, thereby establishing straight and smoothly cut edges for construction joints.

The reconstructed runways are handling gross loads of 70,000 pounds daily. Prior to reconstruction they did not successfully handle gross loads of 25,000 pounds, Mr. Oldham said. The base was

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CUMMER ASPHALT PLANTS

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- Mixing tower with vibrating screens and mixer.
- Enclosed cold and hot elevators.
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built on a good sandy loam foundation and "we believe that it will safely handle any loads now anticipated and that we may reasonably expect a long, maintenance-free life of this pavement."

Professor Fred J. Benson, of the Agricultural and Mechanical College of Texas, discussed the highway short course sponsored jointly by the Texas Highway Department and the civil engineering school of his institution. His five points were to set the course up for the benefit of a particular group, prepare the course in cooperation with the leaders of that group, select the speakers carefully, make those attending comfortable, and provide some entertainment.

Exhorts Listeners to Action

Milton Rosen, commissioner of public works of St. Paul, Minn., exhorted his listeners to action on municipal road construction, asking: "Why should we have to wait for another world war or catastrophe of some kind to make the public understand that development of motor vehicle transportation facilities is so essential and vital to the welfare of our cities and nation?"

Other addresses in the field of low-cost road development and construction were delivered by L. M. Clauson, director of secondary road surfacing problems of the Iowa State Highway Commission, on the subject of Developments in Iowa Secondary Road Soil Stabilization; J. T. Sharpsteen, Michigan county highway engineer, on Economic Value of Using Calcium Chloride in Stabilization of Gravel Roads.

George P. Driscoll, associate professor of civil engineering at Notre Dame, talked on Training Graduate Engineers for Highway Careers; F. R. Everds, Iowa contractor, on the Contractor's View on Construction of Soil Stabilized Roads; A. O. Williamson, of William Bros. Boiler & Manufacturing Co., on the Trend Toward Heavy Pneumatic Tired Rollers or Compactors.

Other Prominent Speakers

Among the many other prominent speakers at the convention were:

Maj. Gen. Frank A. Heileman, Army chief of transportation, who emphasized that highways are vital to national defense because they provide the foundation for essential motor transport.

Paul Royster, director of the Office of Transportation, who said that understanding the intent of the mobilization effort is quite general, but there appears to be widespread lack of understanding and no little criticism of the over-all policy as to the extent of interference with "business as usual."

Truck Association Views

John V. Lawrence, managing director of the American Trucking Association, who called for construction of highways and regulation of motor vehicle sizes and weights on a basis of "scientific facts as road builders know them" so the trucking industry may "make its maximum contribution to the economic welfare in defense of the country."

Bun Raley, president of the National Rural Letter Carriers' Association, who spoke on good farm roads as a sound investment.

vestment.

Henry Aarons, senior civil engineer, Civil Aeronautics Administration, who outlined the Status of Airport Pavement Design.

F. R. Reynolds, Jr., project engineer, roads and airfields branch, Engineer Research and Development Laboratories, on Traffic Tests of Soil Cement Lanes.

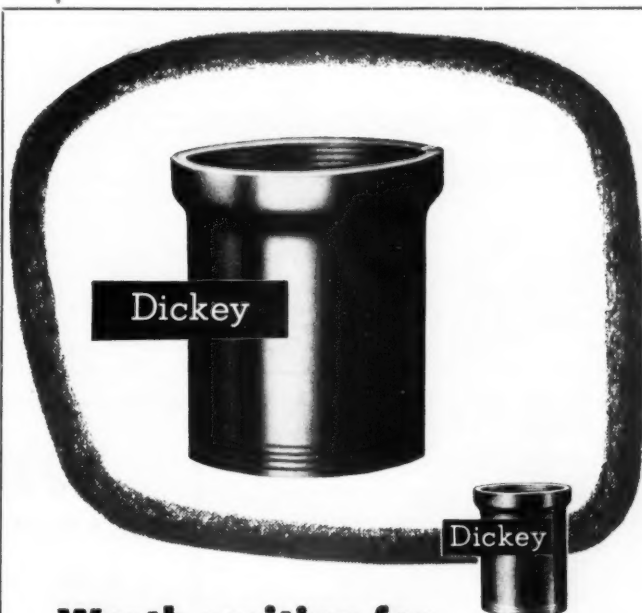
Addresses were also delivered by Senator Dennis Chavez, chairman of the Committee on Public Works, United States Senate, and Representative George H. Fallon, Chairman of the House Subcommittee on Roads.

Representative Fallon decried diversion of gasoline funds and said that increased

emphasis should be given to the importance of highways in civil defense. Transportation is extremely vital in event of an atom-bomb disaster, he declared.

The Role of Civil Airports in National Defense was discussed by Phillips Moore, director of the office of airports, Civil Aeronautics Administration.

A. C. Clark, deputy commissioner of the Bureau of Public Roads, told of the status of Federal Aid Highway Systems, revealing that they total 651,826 miles of highways, of which 219,196 miles are on the rural primary, 416,989 miles on the secondary, and 15,641 miles on the urban system. Within this mileage are 37,800 miles of the interstate system.



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No wonder so many engineers, contractors, and builders have decided Dickey Pipe is worth waiting for.

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Reynolds Pushes \$80,000,000 Plant

(Continued from page 32)

turned about 30 degrees from the pot buildings so that the plant may best utilize prevailing winds for ventilation.

One D.C. building, 465 by 146 feet, will have installed 31 Cooper-Bessemer Model LSV-16-SG vertical "V" type 16-cylinder, 327 revolutions per minute engines directly coupled to General Electric 2,500-kilowatt generators to give a capacity of 77,500 kilowatts.

Thirty-eight Cleveland Diesel Model 16-358X radial engines directly coupled to 2,000-kilowatt General Electric generators will be installed in the second D.C. building which is 562 feet long by 61 feet wide. This is an additional D.C. capacity of 76,000 kilowatts, or 153,500 kilowatt total D.C. generating plant capacity.

Housed in the 317-foot-long by 75-foot wide A.C. building will be nine more Cooper-Bessemer Model LSV engines with General Electric 3,125-kilovolt amperes, 80 per cent power factor A.C. generators to give a total A.C. plant generating capacity of 22,500 kilowatts.

The carbon paste plant contains the roll crushers, hammer mills, ball mills, screens, collectors and storage tanks which are necessary to break up into the proper size, classify and store anthracite coal, beehive and calcined coke. This material in proper portion by size is blended in mixers with pitch as a binder to form the paste used in the cell anode and cath-

ode. The plant required a large quantity of various type conveyors to move material from one piece of equipment to the next.

Auxiliaries required in conjunction with the plant are an unloading shed for handling the raw material, the necessary storage tanks, a pitch pumping house, and a steam power plant of two 150-horsepower units to provide steam to assure proper pitch viscosity.

There are several utilities for the common use of all plants. A 506-foot-long by 92-foot-wide service building will house a machine shop, electrical shop, and a blacksmith shop. There will be individual buildings for carpenter shop, paint shop, and oil storage.

A masonry wash and locker building 110 feet by 90 feet will have shower and toilet facilities. The two-story completely air-conditioned masonry office building will house the administrative personnel. Parking facilities are being provided for 400 cars.

Several miles of railroad siding have been brought into the plant site to provide double sidings on each side of the reduction plant. Raw material will be brought in on one side and aluminum will be shipped from the other. Paved roads provide access throughout the plant and connection to a new four-lane highway into Corpus Christi.

Twelve miles of pipeline bring in the

required water and two additional pipelines are being laid to supply natural gas. A complete sewage treatment plant is included.

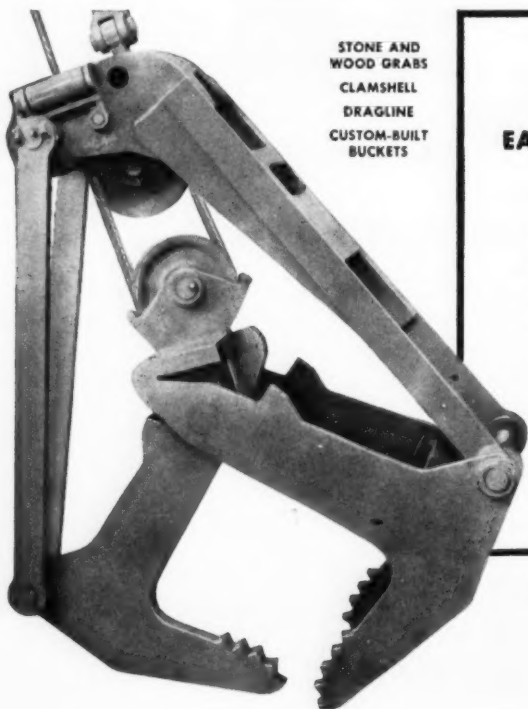
For the safety and comfort of the approximately 600 workers, 7,600 feet of continuous ridge ventilators are being provided on reduction plant and power plant buildings. Throughout, wherever practical, additional gravity and forced ventilation is being provided. All latest safety devices are being employed. Dust collection equipment is being employed wherever necessary for the comfort of the employees. Also air condition where practical.

Considerable thought went into the selection of the site which was chosen with an eye to the future. Long range plans call for an alumina plant that will refine bauxite ore brought in by ship. This will require the dredging of a seven-mile deep-water channel and the installation of ship unloading facilities at the plant site.

J. Gordon Turnbull, Inc., of Cleveland, Ohio, is supervising the contractors and engineering for the aluminum plant now under construction and about three-fourths complete.

Foundation and building work is being performed as a joint venture by Henry C. Beck Co. of Dallas, and H. R. Henderson Co. of Marshall, Tex. Most of the underground piping is being done by Heldenfels Brothers of Corpus Christi. William H. Singleton Co. of Washington, D. C., has the mechanical contract, which includes

(Continued on page 36)



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WOOD GRABS
CLAMSHELL
DRAGLINE
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BUCKETS

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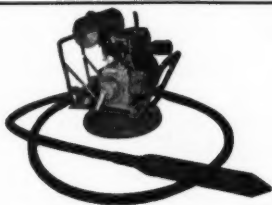
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which have made them successful all over the world.

All Flexible Drive Sections are interchangeable. No special sections, or expensive extra couplings needed. Each casing has ball bearing connector.

No Limit to Length of Flexible Drive. Each driving core has slip joint which does not separate in service. Prevents stretching.

All Vibrator Heads are Interchangeable. Can be put directly on any drive section. Can be opened for repairs. Double row ball bearings.

Grinding Spindles can be attached to any section. No special drive needed. For wet and dry grinding.

Standard Power Units.

Gasoline engines or electric motors which can be serviced almost anywhere. Swivel base. Barrows.

Minimum of Repair Parts Needed.

One spare driving core is ample. Either 7' or 12'.

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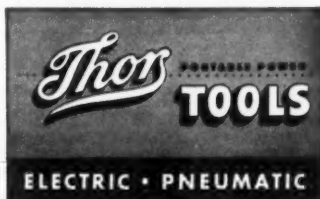
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Reynolds Pushes Huge Corpus Christi Plant

(Continued from page 54)
installation of equipment and piping. Fischbach & Moore & Texas is the electrical contractor.

C. F. Braun & Co. of Alhambra, Calif., have been engaged to act as general contractors for the alumina plant, this to include engineering.

Major equipment suppliers, as revealed by Plant Manager L. A. Amos, include Cooper-Bessemer Corp. and the Cleveland Diesel division of General Motors Corp. for gas engines. All of the A.C. power and about fifty per cent of the D.C. power will be generated with the Cooper-Bessemer LSV type engines, each with a capacity of 2500 kilowatts. The other half of the D.C. generation will be by means of the Cleveland Diesel engines, each with a capacity of 2,000 kilowatts.

Total generating capacity will approximate 185,000 kilowatts. The generators are being supplied by General Electric Corp.

Building steel for the entire plant was supplied and erected by the Virginia Bridge Co., now incorporated in the American Bridge division of United States Steel Corp. Steel for the electrolytic cells was supplied and fabricated by Ingalls Iron Works.

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- Bituminous paving equipment
- Park and Lift trucks
- Crushing and screening equipment
- Material conveyors
- Aggregate, cement, batching equipment
- Small truck cranes and crawler cranes

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Southern River, Harbor, Flood Control Projects Listed

(Continued from page 5)
ning on Anacostia River;

Florida—Central and Southern, \$5,000,000;

Georgia—Clark Hill reservoir, \$4,100,000;

Kentucky—Ashland, \$900,000; Covington, \$900,000; Louisville, \$4,500,000; Maysville, \$1,000,000, total \$7,300,000; \$25,000 for planning on Barbourville; \$50,000 for planning at Jessamine Creek Reservoir; \$25,000 for planning at Pineville;

Louisiana—Natchitoches Parish, \$500,000;

Maryland—Cumberland, Md. and Ridgely, W. Va., \$1,300,000;

Missouri—Cape Girardeau, \$1,000,000; Perry County Levee districts, Nos. 1, 2 and 3, \$1,000,000;

North Carolina—John H. Kerr reservoir, \$6,640,000;

Oklahoma—Fort Gibson reservoir, \$525,000; Tenkiller Ferry reservoir, \$2,250,000; total \$2,745,000; \$150,000 for planning on Keystone reservoir;

South Carolina—Hartwell reservoir, \$4,000,000;

Tennessee—Dale Hollow reservoir, \$1,491,000; Memphis, Wolf River and Nonconah Creek, \$750,000; total \$2,241,000;

Texas—Belton reservoir, \$3,500,000; Fort Worth Floodway, \$750,000; Garza-Little Elm reservoir, \$5,300,000; Lavon reservoir, \$462,000; Texarkana reservoir, \$6,000,000; Whitney reservoir, \$175,000; total \$18,387,000.

VIRGINIA PROJECTS

(Continued from page 39)

gineers let contract to Nello L. Teer Co., Durham, N. C., at \$2,416,112 for relocations—US Hwy. 15 & Southern Railway south of Clarksville, Va.

NEWPORT NEWS—Housing Authority received low bid of \$2,218,000 from Virginia Engineering Co., Newport News for low rent public housing community.

NORFOLK—Navy Department, Public Works Office, let contract to Carpenter Con-

struction Co., 1300 Bank of Commerce Bldg., Norfolk at \$2,291,010 for additions to aviation gasoline distribution system, Craney Island.

NORFOLK—Corps of Engineers let contract to The Leo Butler Co., College Park, Md., at \$262,196 for sanitary sewage system.

NORFOLK—Navy Department, Public Works Office, let contract to R. J. Robinson, 4404 Princess Anne Road, at \$75,000 for exterior painting buildings, Norfolk Naval Base.

NORFOLK—Corps of Engineers, received low bid of \$333,184 from Wright Contracting Co., for relocation Va. Secondary Rd. 712.

NORFOLK—Corps of Engineers let contract to Ralph E. Mills, Salem, Va., at \$349,388 for relocating Va. Route 623, Smith River and Ryans Branch.

NORTHWEST—Navy Department, Public Works Office, Norfolk, let contract to Susco Contractors, Dallas, Tex., at \$1,988,514 for radio receiving facilities.

OCEANA—Navy Department, Norfolk, let contract to T. E. Ritter Corp., Norfolk at \$128,580 for replacement State Route 615, Princess Anne County.

PETERSBURG—Virginia State College let contract at \$529,363 to English Construction Co., Altavista, for Foster students' activities building.

PORTSMOUTH—Navy Department, Norfolk, let contract to Whitlock-Dunn, Portsmouth at \$289,758 for repairs to Shop No. 163.

PULASKI COUNTY—Board of Education received low bid from Thornton Construction Co., Richmond, for Draper Elementary School, Newbern Elementary School.

RICHMOND—St. Catherine's School let contract at \$271,216 to J. Kennon Perrin Co., Richmond, for classroom and dormitory building.

RICHMOND—Gov. John S. Battle asked General Assembly for \$30,000,000 for new schools in next two years.

ROANOKE RIVER—Corps of Engineers let contract to J. A. Jones Construction Co., Charlotte, N. C., at \$208,710 for 110 KV transmission line, Bugas Island.

SOUTHAMPTON—Board of Education will receive bids February 29 for Hayden High School.

WEST VIRGINIA

United Fuel Gas Company plans \$2,000,000 pumping station and a 6,000 acre gas storage field in Upshur County between Buckhannon and Webster Springs.

MOUNDSVILLE—Solvay Process Division, Allied Chemical & Dye Corp., plans mercury cell chlorine-caustic soda plant, vicinity of Moundsville, cost approximately \$15,000,000.

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VIRGINIA ENGINEERING COMPANY, INC.

Government — INDUSTRIAL — Municipal

GENERAL CONTRACTORS

NEWPORT NEWS, VIRGINIA

\$323,061,000 Value Set For January Contracts

(Continued from page 20)

will be limited principally by the shortage of copper.

Copper producers, however, are aiming their sights at an increase of an additional 200,000 tons from domestic mines by 1955, while similar efforts are being made to raise production abroad. The immediate effort is to push the flow of scrap, an important element in production of the copper alloy products that go into production.

On the aluminum front, this metal being the other controlled material, it is significant that major steps for alleviating the situation are being taken by the country's largest producers at southern locations. Aluminum Company of America has selected a site in Texas for a \$115,000,000 facility to produce pig aluminum, at the same time expanding its Port Lavaca plant at a cost of \$43,500,000. Reynolds is active on a \$80,000,000 project at Corpus Christi and Kaiser Aluminum has poured the first aluminum as its proceeds with additional expansion in Louisiana. Reynolds also plans a \$30,000,000 reduction plant in Arkansas.

The estimate for construction throughout the country in 1952 is approximately \$37,000,000,000. This figure is advanced by the national contractors association and "is considered possible of attainment within the framework of the current mobilization program" if materials production continues high, work stoppages are negligible and the structural steel supply eases.

Employment in the construction industry, which reached an all-time peak last year, is expected to continue at a high level in 1952. In August of 1951 construction contractors had 2,809,000 workers on their payrolls, or 233,000 more than in August 1942, the peak employment month during World War II.

The Department of Labor, where the prediction on high employment in construction originated, expects home building to decline from the eleven billion dollar value of last year, but says industrial plant building will continue for some time, with the expenditure in 1952 approximately \$3,700,000,000, or nearly a billion dollars more a month than last year.

ROADS, STREETS, BRIDGES

	January, 1952 Contracts Awarded	Contracts to be Awarded January 1951	Contracts Awarded January 1951
Ala.	\$35,000	\$1,300,000	\$4,666,000
Ark.		960,000	
D. C.			
Fla.	4,613,000	1,300,000	2,518,000
Ga.			
Ky.	2,348,000	9,502,000	
La.	3,393,000	2,600,000	5,709,000
Md.	1,216,000	9,480,000	3,857,000
Miss.	42,000	60,000	165,000
Mo.	3,453,000	1,500,000	
N. C.		1,920,000	4,364,000
Okla.	2,681,000	5,000,000	1,004,000
S. C.	2,517,000	720,000	5,269,000
Tenn.			2,790,000
Tex.	10,791,000	2,255,000	3,901,000
Va.	1,194,000	900,000	1,268,000
W. Va.	672,000	550,000	
TOTAL	\$32,935,000	\$38,107,000	\$35,511,000

PUBLIC BUILDING

(City, County, State, Federal; Schools)

	January, 1952 Contracts Awarded	Contracts to be Awarded January 1951	Contracts Awarded January 1951
Ala.	\$3,848,000	\$3,215,000	\$1,468,000
Ark.	324,000		549,000
D. C.	2,338,000	1,240,000	2,563,000
Fla.	5,805,000	1,320,000	3,239,000
Ga.	12,236,000	4,150,000	936,000
Ky.	23,137,000	1,210,000	77,000
La.	2,635,000	1,255,000	2,313,000
Md.	3,244,000	13,476,000	20,189,000
Miss.	2,180,000	2,343,000	1,063,000
Mo.	1,258,000	1,635,000	735,000
N. C.	3,482,000	1,500,000	6,120,000
Okla.	4,579,000	1,025,000	1,072,000
S. C.	1,621,000	860,000	1,132,000
Tenn.	20,731,000	19,271,000	10,099,000
Va.	9,819,000	4,355,000	5,495,000
W. Va.		370,000	
TOTAL	\$97,677,000	\$63,775,000	\$55,880,000

PUBLIC ENGINEERING

(Dams, Drainage, Waterworks, Sewers, etc.)

	January, 1952 Contracts Awarded	Contracts to be Awarded January 1951	Contracts Awarded January 1951
Ala.	\$432,000	\$235,000	\$1,422,000
Ark.	250,000	10,360,000	200,000
D. C.	336,000	875,000	25,000
Fla.	19,308,000	4,690,000	5,450,000
Ga.	403,000	950,000	1,519,000
Ky.		450,000	
La.	2,682,000	1,964,000	3,196,000
Md.	1,315,000	1,270,000	676,000
Miss.		1,790,000	1,254,000
Mo.	2,385,000	1,726,000	468,000
N. C.	5,138,000	200,000	11,000
Okla.	7,104,000	10,270,000	710,000
S. C.	2,316,000	1,630,000	533,000
Tenn.	10,471,000	19,125,000	1,022,000
Tex.	14,207,000	13,881,000	9,174,000
Va.	6,532,000	1,765,000	125,000
W. Va.			
TOTAL	\$73,139,000	\$71,241,000	\$25,785,000

INDUSTRIAL

	January, 1952 Contracts Awarded	Contracts to be Awarded January 1951	Contracts Awarded January 1951
Ala.	\$1,802,000	\$650,000	\$43,781,000
Ark.	450,000	166,000	50,000
D. C.			
Fla.	881,000	1,347,000	2,270,000
Ga.		457,000	1,327,000
Ky.		16,000,000	350,300,000
La.	32,202,000	1,423,000	4,356,000
Md.	1,279,000	400,000	735,000
Miss.	14,000,000	1,185,000	2,667,000
Mo.	731,000	8,050,000	10,459,000
N. C.	818,000	9,530,000	6,500,000
Okla.	1,700,000	7,895,000	300,000
S. C.	1,850,000	3,400,000	353,554,000
Tenn.	1,105,000	20,360,000	2,250,000
Tex.	6,549,000	12,875,000	18,956,000
Va.	22,000	1,050,000	1,134,000
W. Va.		15,000,000	21,800,000
TOTAL	\$63,189,000	\$99,808,000	\$820,619,000

PRIVATE BUILDING

(Assembly, Commercial, Residential, Office)

	January, 1952 Contracts Awarded	Contracts to be Awarded January 1951	Contracts Awarded January 1951
Ala.	\$4,760,000	\$3,230,000	\$7,365,000
Ark.			4,478,000
D. C.	450,000	1,025,000	
Fla.	11,220,000	3,600,000	8,264,000
Ga.	4,453,000	1,790,000	8,550,000
Ky.		1,000,000	1,000,000
La.	223,000	4,635,000	5,437,000
Md.	11,818,000	2,270,000	9,732,000
Miss.	2,927,000	310,000	1,084,000
Mo.	233,000	113,000	40,467,000
N. C.	2,411,000	300,000	5,672,000
Okla.			500,000
S. C.	363,000	70,000	841,000
Tenn.	6,916,000	850,000	26,538,000
Tex.	5,127,000	22,907,000	23,841,000
Va.	2,750,000	980,000	6,902,000
W. Va.			
TOTAL	\$56,701,000	\$43,080,000	\$144,671,000

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58

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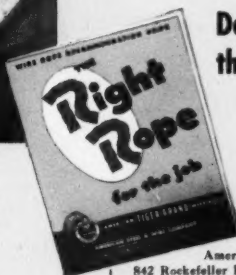


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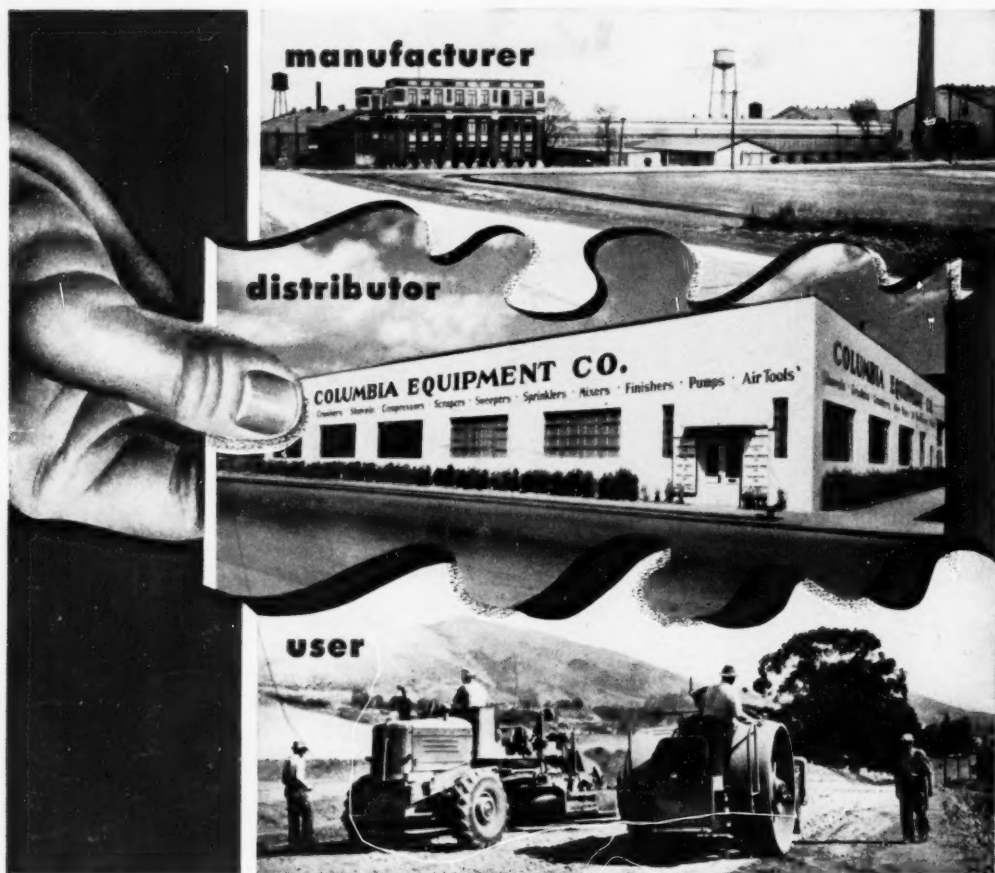
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